Workforce Planning Report

December 2003

Prepared by Western's Workforce Planning Team

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Executive Summary

Background and Benefits

Western's management established the Workforce Planning Team as the foundation for the agency's human capital management (HCM) program. The workforce planning effort focused on strategically aligning Western's human capital with its business direction. This included analyzing the current workforce, determining future workforce needs, identifying problem areas, and finding solutions to accomplish Western's mission. Appendix 1 contains a summary of Western's workforce planning model. Workforce planning helps management focus on longer term human capital needs, instead of simply address near-term needs.

Besides strategic benefits, there are also operational benefits. Workforce planning data assists budget and management staff in anticipating FTE changes and provides support for appropriations requests for more resources to accomplish mission goals. Other human capital management teams and human resources offices across Western can use the plan to develop recruitment and retention programs, develop training programs, and plan for management succession. Finally, Western's leaders use workforce planning information to plan for resource needs in program areas.

Purpose of Workforce Plan

The Workforce Planning process examined Western's future workforce needs in its critical occupations on a Western-wide basis. Recommendations to close workforce gaps are presented at a strategic level. If they are adopted by Senior Management, they will need to be refined by the Recruiting Council, Human Resources Corporate Office and/or local HR shops into operational plans customized to the specific needs of the organization. Should operational plans require significant resources of time, effort, or funding, approval of the implementing plans will be sought at the appropriate Senior Management level.

Mission-Critical Occupations

OPM's Human Capital Standards require that an organization study its mission to determine which occupations are essential to achieving its strategic goals, and further analyze the strengths and weaknesses in each occupation. Western's Administrative Officers determined 10 occupations were mission-critical. Those occupations cover nearly two-thirds of Western's employees. They are:

AD-301, Energy Management and Marketing Specialist

AD-303, Dispatcher

GS-850, Electrical Engineer

GS-855, Electronics Engineer

GS-1130, Public Utilities Specialist

GS-2210, Information Technology Specialist

WB-2610, Electronic Equipment Craftsman

WB-2610, Meter & Relay Craftsman

WB-2801 Lineman

WB-2810 Electrician

Key Findings

Several themes emerged in analyzing the gaps between Western's projected long-term workforce needs and the available pool of applicants, both internal and external. Occupation-specific recommendations include:

- **AD Positions:** Projections show an adequate qualified applicant pool to meet Western's needs for dispatchers and energy management and marketing specialists. However, managers identified EMMS salary levels as a potential recruitment barrier. The EMMS managers also identified a more structured training program as a need.
- **Electrical and Electronics Engineers:** The pool of qualified engineers should equal the supply for the next 10 years, and technological advances and other efficiencies could result in an oversupply of qualified candidates for these positions. However, a lower-than-average pay scale in the lower grades (e.g., GS-7), was identified as a potential barrier to recruiting. This disadvantage decreases

as the grade increases, with pay scales for engineers at the GS-13 level generally matching or exceeding those of other utilities.

- **Information Technology:** While well-qualified IT professionals are currently plentiful, but that may change with economic conditions. The Department of Labor predicts growth in IT-related occupations through 2010. This may make recruitment difficult, especially as private-sector incomes rise to attract a shrinking employment pool.
- **Public utilities specialist:** There should be an adequate workforce market to recruit employees with skill sets for these jobs. However, because it takes three to five years to learn the unique aspects of the job required for a senior specialist, adequate employee developmental time is essential.
- **Wage board positions:** Western offers competitive pay rates for electricians, linemen, electronic equipment craftsmen and meter and relay craftsmen. Some positions are hard to fill due to remote locations or high costs of living. The electric services industry anticipates an employment reduction of 9.2% by 2010, providing a pool of candidates who would be at least minimally qualified for Western's positions. Finally, the technical requirements for these positions continue to increase, requiring ongoing training for current and potential employees.

Recommendations

The body of this report contains detailed recommendations for each occupation. Based on our analysis of this information, we propose the following actions by Western, its managers and Human Resources offices:

Senior Management

- Accept the workforce planning model (as described in Appendix 1) as the basis for Western's long-term human capital management efforts.
- Support the development of programs that:
    - Train current employees for projected openings in mission-critical occupations where a professional degree is not required.
    - Recruit more aggressively for qualified candidates from outside Western where internal supply may not be adequate (i.e. Dispatchers).
    - Extend competition to larger pools of applicants, including high-potential students.
- Encourage supervisors and managers to use flexibilities such as student programs, work-life options, and student loan repayment.
- Provide sufficient resources to support:
    - Understudies to work with highly qualified employees in key positions, transferring knowledge and expertise.
    - Retention bonuses for highly qualified employees.
    - Recruitment bonuses for hard-to-fill positions.
    - Intern, apprentice, rotational, and craftsman-in-training programs to give entry-level employees the Western-specific skills they need.
    - Training to keep employees up to date with industry changes and requirements.

Other managers and supervisors

- Understand and utilize hiring flexibilities which are available to attract and retain employees.
- Recruit from wider pools of applicants, including entry-level positions, as appropriate.

- Encourage employees to participate in Western's Management Succession and Emerging Leader programs, and other developmental programs as they become available.
- Designate entry-level positions for high-potential employees who can grow within the organization.
- Encourage experienced employees with special knowledge and skills to transfer knowledge to entry-level employees.
- Provide training in new skills and tasks as the utility industry evolves.

Servicing Human Resources offices

- Develop CSO/region-specific workforce plans that address specific challenges, skill imbalances, and other workforce needs at the local level. Integrate these efforts with the corporate workforce plan, and establish a minimum level of consistency among the offices in the data and format used. (See a sample workforce plan in Appendix 8.)
- Develop partnerships with schools that offer programs in skill areas Western needs now and in the future.

Recruiting Council

- Develop a coordinated recruiting effort to attract entry-level and journey-level employees, marketing Western as an employer of choice.
- Provide recruiting tools to servicing human resources offices, managers and supervisors.

Section 1: AD Positions

Energy Management and Marketing Specialist (AD-301)

Gap Analysis

1. **Internal Needs.** Of the 23 current Energy Management and Marketing employees in Watertown and Montrose, 12 are 50 years of age or older (52 percent). While the turnover rate for the years 2000 through 2002 has been at about 5 percent (only one retirement or separation in each of the three years), that trend should increase markedly as employees reach retirement age. By the end of 2007, 14 employees (61 percent) in this category will be retirement eligible. The small sample size of those retiring does not provide enough information to project how long an employee in this occupation works past retirement eligibility. However, it is probable that 10 or more of the 23 employees in this category will leave Western during the next five years, effectively doubling the retirement/separation rate of the recent past. Watertown's forecast shows between four and 10 vacancies by the end of 2008 (average of seven), and Montrose estimates between five and eleven (average of eight). With the probability of an increased future workload, there is a need to replace and/or hire employees.

2. **External Supply.** Under current conditions, Western probably cannot supply the needed AD-301s through its current employees. Therefore, Western will need to hire from outside. The Department of Labor says there are qualified persons available to hire. However, Western has found that pay disparities, along with problems in the selection process, have made it difficult to hire from outside Western.

3. **Salary.** The subject matter experts identified EMMS salary levels as a potential recruitment barrier. Like Dispatcher salary rates, EMMS salary rates are set by Western's Dispatcher Pay Committee based on annual salary surveys of comparable positions in the electric utility industry. Recent salary surveys have resulted in EMMS receiving less pay than Dispatchers.

4. **Training.** One office believed that with a more formal training program, including a training position, the EMMS employees would be more proficient and able to bring in more revenues. In contrast, dispatchers have training mentors and a developmental program that aids them in becoming fully qualified in their positions.

Recommendations

- **Intern Program:** Establish an intern program to develop new EMMS employees.

- **Retention Allowances and Recruitment Bonuses:** Utilize retention allowances for Western employees with unusually high or unique qualifications who are likely to leave without such an incentive. Likewise, offer recruitment bonuses to attract qualified employees from other utilities.

Section 1: AD Positions

- **Qualification Requirements for Hiring:** Strengthen the minimum qualifications standards for recruiting purposes to assure that only qualified applicants are considered.

- **Training:** With better and more consistent training it is felt that the EMMS employees could be more productive in the performance of their duties. A training mentor program, based on a similar program under AD-303s, could be beneficial.

- **Financial Tracking:** A more consistent approach should be adopted in tracking not only the expenses of the merchant function, but also in tracking the associated revenues brought into Western.

Section 1: AD Positions

Dispatcher (AD-303)

Gap Analysis

This section includes all AD-303s regardless of title, including Power System Dispatcher, Power Area Dispatcher, and Power Operations Specialist. The generic title "Dispatcher" will be used here.

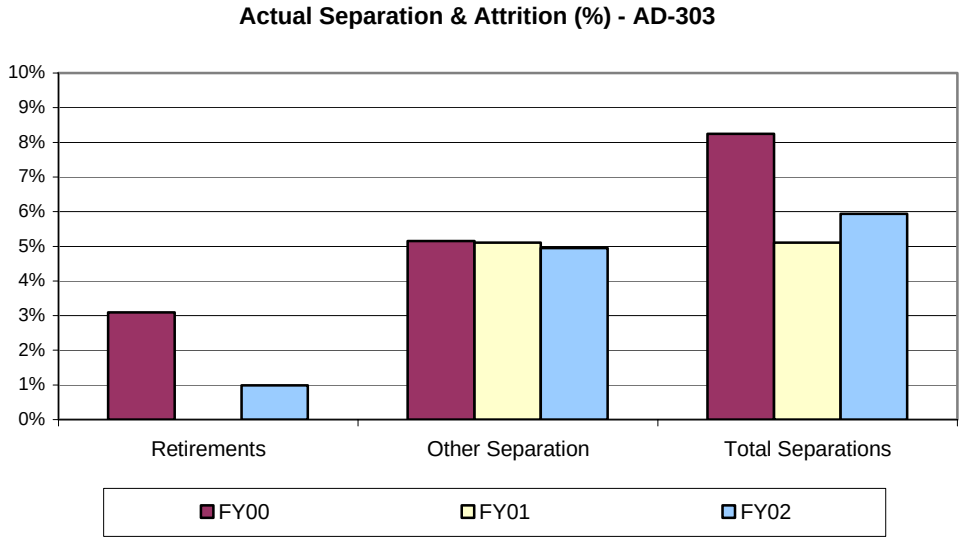
1. More than half of Western's dispatchers are in the age group over 50, making them eligible to retire within the next three to five years. Historical data shows that dispatchers work for less than two years past their retirement age.

Age Distribution in the AD-303 Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
2	10	35	51	5	**103**

2. Western forecasts that by 2008, 14 to 36 nonsupervisory and two to four supervisory employees will be needed in the AD-303 occupation. This is in addition to the present employment levels.

3. The separation rate for dispatchers is about 6.4 percent (between 6 and 7) annually. More than 78 percent of all the attrition is due to separations other than retirement.



4. The dispatchers in Western are reaching retirement age at a rapid pace. With an increase in the work load and skill sets due to changes in the industry, such as NERC, WECC, possible RTO formation, and implementation of Standard Market Design, Locational Marginal Pricing or other complex transmission congestion management methods, recruitment *planning* is necessary.

Section 1: AD Positions

5. The external labor force analysis shows an adequate market to recruit individuals with skills that can be adapted to do the dispatch function.

Recommendations

- **Recruit from outside Western as attrition occurs.** The Power Operations managers have successfully hired from outside Western at AD-03/04 level through vacancy announcements, with minor difficulties based on the location.

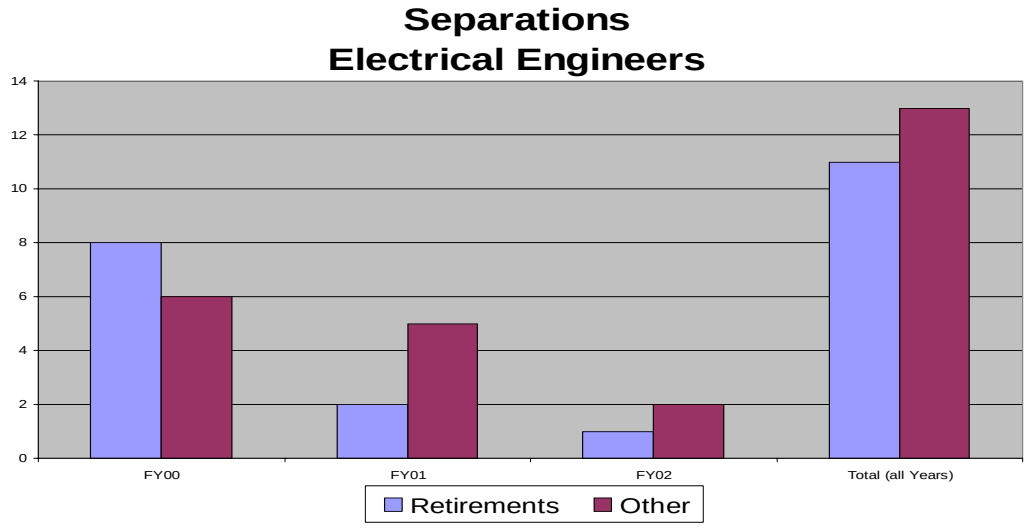
- **Use an ongoing intern program to recruit and train candidates from both inside and outside Western** to hire dispatchers at the AD-01/03 level. All regions have succeeded in filling dispatch positions by recruiting interns from inside, training them and, within two to three years, placing them at the AD-03 level. The intern program could be extended outside Western through a student program with a school that has the appropriate curriculum. This would help recruit and retain local people.

- **Have an active recruitment program**, with colleges that offer a degree in power management, electrical technology or accounting.

Electrical Engineers and Electronics Engineers

Gap Analysis—Electrical Engineers

1. **Internal Needs:** Historical separation rates indicate that about 6.7 percent (about 9) electrical engineers leave Western annually through either retirement or other means of separation. Through FY2007, this would equate to a possible turnover of 36 electrical engineers (28.5 percent of the total**).** More than half of all attrition in this occupation is due to separations which are other than retirements**.** Subject Matter Expert estimates of hiring needs for the next 3-5 years range between 3 and 17, with all hiring taking place in the GS-12 and above levels.



2. **External Supply:** The demand for electrical engineers is projected to equal the supply within the next 10 years. In addition, productivity increases resulting from technological advances (and the resulting staffing efficiencies realized) may produce an oversupply of available labor for this occupation. However, highly trained personnel with the education and experience to take advantage of new developments in electric utilities should face good prospects for employment.

3. **Salary:** Western's grade distribution for this occupation shows 88 percent are at or above the GS-12 level. A Western Engineering Salary Survey conducted in April, 2002 indicates that, in general, Western's electrical engineer pay for GS-11 level work and below was less than average. However, at the mid-to-upper GS-12 and above levels, Western's pay is very competitive with other utilities selected for comparison.

Gap Analysis—Electronics Engineers

1. **Internal Needs:** Historical separation rates indicate that about 6.4 percent (about 3) electronics engineers leave Western annually through either retirement or other means of separation. Through 2007, this would equate to a possible turnover of approximately 12 electronics engineers (30.8 percent of the total). Subject Matter Expert estimates of hiring needs within the next 3-5 years will range from 6 – 17 employees.

2. **External Supply:** The external labor force analysis shows that the number of job openings resulting from the need to replace electronics engineers within the next 10 years is expected to be in approximate balance with the supply of graduates. Further, increases in productivity resulting from technological advances (and the resulting staffing efficiencies realized) may produce an oversupply of available labor for this occupation. However, continuing education will always be important, and highly trained personnel with the education and experience to take advantage of new developments in electric utilities should face good prospects for employment.

Recommendations

- Given that 54 percent of electrical engineers separate for reasons other than retirement, Western should analyze the reasons (i.e., pay issues, job satisfaction issues, location issues, etc.) that contribute to these losses. (**NOTE:** Western will begin collecting organizational climate and exit survey data in the next year. This data will be broken down functionally, and will provide opportunities to gain the engineers' perspectives).

- Given inequities between Federal and private sector salaries at the lower GS grade levels, Western should continue its practice of hiring at the journeyman level to be competitive with private-sector salaries (mid-to upper-GS-12/13). Further, Western should consider increasing the use of retention incentives (e.g., Student Loan Repayment Program that provides tuition reimbursement) to retain mid-to lower-level engineers (GS-11 and below) until they reach the more competitive GS-12 salary level.

- Technology advances projected in the next five years within the electric utilities industry dictate the need for Western to focus on providing specialized training to ensure electrical and electronics engineers stay abreast in their respective occupations and for Western to attract engineering graduates with specialized skills.

- Consider reinstituting a rotational engineer program to provide recent college graduate engineers developmental opportunities. This will allow Western to attract and retain employees with the specialized skills necessary in working with state-of-the-art technologies.

Section 2: General Schedule Positions

Information Technology Specialist (GS-2210)

Gap Analysis

1. **Internal Assessment**. While this report focuses on the 74 FTE in the GS-2210 series, Western's IT workforce is more than that series. Its composition changed with the integration of regional SCADA support staff within the IT organization. While this is a Federal workforce plan, contractors play a vital role. Western has 118 Federal and 95 contract staff within IT, including computer scientists GS-1550, student trainees GS-2299 and GS-399, computer clerks GS-335 and electronics engineers GS-855.

   Eighteen of the GS-2210s are eligible to retire during the next five years. Western IT management estimates it will need to hire between 21-30 employees within the next 3-5 years. The internal pool of employees, and potential applicants for internal vacancies, includes 62 percent aged 49 and under and 86 percent at or below the GS12/13 level. Also, with six supervisors eligible to retire within five years, Western may experience a dramatic loss of IT leadership and knowledge.

2. **Skill Set**. These jobs require a very broad skill set. Skills range from project management and contractor oversight to technical knowledge of the utility industry and platforms/applications. Staff needs the ability to move between projects quickly, manage a diverse stream of projects with an ever-changing mix of internal and external resources, and learn new technologies as needed. This expansive skill set may reflect the uncertainty of the role the Federal IT staff will play in a contracted-out environment

3. **External Supply.** Western can offer more stability to IT employees than is typical in the private sector. When the economy is weak, it is easier to recruit and retain talented people. Conversely, a strong economy makes it difficult to recruit and retain talented people, especially as salaries rise more quickly in the private sector. Additionally, Department of Labor projects the IT-related occupations will grow through 2010, with the total employment projected to double. In the future, it may be difficult to gain the employees needed through external sources.

4. **Getting the Right People for the Job.** This gap involves hiring the right people for the project. The personnel recruitment process and the automated staffing system (QuickHire) are perceived as causing hiring delays. Other complaints include too many questions in the QuickHire library, and applicants who abuse the self-assessment system.

5. **Turnover.** While the average turnover rate in this occupation is less than 5 percent, 75 percent of those who do leave separate for reasons other than retirement. Possible reasons include organizational rigidity, employee burn-out, and lack of promotion potential.

Section 2: General Schedule Positions

Recommendations

- **Develop a workforce plan based on a more comprehensive IT picture.** For the next workforce planning cycle, consider expanding beyond GS-2210s to computer scientists (GS-1550), student trainees (GS-2299 and GS-399), computer clerks (GS-335), and electronics engineers (GS-855).

- **Continue and expand the knowledge-sharing program** to minimize the loss of expertise. Supervisory and nonsupervisory retirements could be an opportunity to rebuild the workforce through new hires and/or retraining current staff.

- **Define the role and skills required by nonsupervisory and supervisory IT staff** before deciding their numbers. Continue to use contractors to augment the Federal workforce.

- **Conduct a skills inventory of current staff** and provide training, including degree programs, to match people/skills with needs. Existing staff is capable of learning and performing new requirements. Better-educated staff expects ongoing training. This may also help staff stay enthusiastic.

- **Optimize the recruitment process** by working with the Corporate Administrative Office to create QuickHire questions which are specific to IT specializations and Western's needs. Utilize the full range of QuickHire assessment options including "Robocop" (which addresses concerns about applicant self-rating) and "category rating" (which removes the "rule of three" requirement to hire from among only the top three applicants on a certificate.)

- **Make Western an employer of choice,** full of seasoned individuals working in a dynamic industry. Salary is not the only reason a person accepts a job. Use work-life programs that have proven successful to attract applicants and retain staff.

Section 2: General Schedule Positions

Public Utilities Specialist (GS-1130)

Gap Analysis

1. **Internal Needs**: By 2008, the Power Marketing Managers estimate that between 7 and 13 of the current 24 PUS employees at the GS-11 level or below will need to be replaced. This analysis is based on a combination of retirement and voluntary separation of some employees and promotion of a large portion into higher graded PUS positions as those employees separate from service with Western.

   At the GS-12 through GS-14 level, including supervisors, 23-45 employees will be needed by 2008. These levels are the senior and expert levels for this position.

   These estimates of needing to recruit between 30 and 58 Public Utilities Specialists are consistent with historical data that shows that Western lost 16 PUS staff from FY00 through FY02. Two -thirds of those losses are to retirement, an area where retention efforts are typically not as effective. The current pool of internal candidates does not appear to be adequate to meet future needs.

2. **External Supply:** The Public Utilities Specialist classification is unique to the Federal government. However, there should be an adequate market to recruit individuals with the skill sets that can be adapted to perform the PUS function. The Power Marketing Managers have consistently stated that the Power Marketing function is unique enough that it takes approximately 3-5 years to develop someone into a senior specialist. The biggest determinant of success is strong analytical ability and flexibility with job requirements/customer needs.

Recommendations

- **Understudy programs.** Given the large number of separations expected over the next 3-5 years it is recommended that each region consider implementing an informal "understudy" program. This program would be initiated, on a region by region basis, by the Power Marketing Manager when he determines that a senior staff member who is within 12 to 18 months of retirement has indicated his intent to retire in that time frame. The Public Utility Specialist occupation relies primarily on on-the-job training to develop an individual into a senior specialist. This approach will enhance a region's ability to prepare for separation without unduly over-staffing the office.

- **Student and Graduate recruitment.** When recruiting for lower level graded PUS positions (i.e. 7/9), regions should focus on recruiting recent college graduates. They should also continue hiring students (SCEP and STEP) to develop internal candidates for the lower graded positions.

Wage Board Positions

A review of the electrician, lineman, electronic equipment craftsman, and meter and relay craftsman occupations revealed similar trends and patterns. As a result, a composite evaluation of these occupations reflects the overall needs within the crafts.

Gap Analysis

1. Within the next five years, 96 of 336 employees (29 percent) are eligible for optional retirements in the four wage board occupations. The average attrition rate for these occupations overall is 4.5 percent, the lowest of the occupations covered in this report. High and low hiring needs, along with attrition rates, are shown here.

Occupation	Number of Employees	Hiring Need (Low)	Hiring Need (High)	Rate of Attrition
Meter & Relay	37	9	24	5.8 %
Electronic Equipment Craftsman	57	16	26	4.27 %
Lineman	132	7	28	4.8 %
Electrician	110	19	43	3.1 %

2. It is challenging for current and new employees to keep up with technology and processes, such as reliability-centered maintenance (RCM) and computer technology changes. Most modern communication equipment is transitioning to digital, and set-up and commission is via a PC, requiring the knowledge to do programming changes. New skills will be needed, especially in new equipment configuration. Employees will need a broader expertise.

3. With the number of projected hires as high as 121, it is imperative that an aggressive intake program with a training component, such as Apprenticeship and Craftsman-in-Training be implemented. While the use of apprentices has been favorable in all regions, there are disadvantages. Locations with small crew sizes have problems supporting apprentices. Additionally, apprentice positions occupy FTE slots and affect productivity. Choosing to hire an apprentice can be a difficult decision.

4. While Western's pay rates are competitive, some positions are hard to fill due to perceived undesirable locations or a high cost of living. Opportunities to hire externally are limited by the fact that there are not a lot of candidates with Western's qualifications. By 2010, an employment reduction of 9.2 percent is predicted in the overall electric services industry. This may provide a pool of candidates who will be qualified for craft occupations but will require additional training to become familiar with Western's maintenance practices.

Section 3: Wage Board Positions

Recommendations

- **Student programs.** Hire employees through the Student Career Experience Program (SCEP), Craftsman in Training Program (CIT) and at the journey level to ensure a balanced mix on the crews. The CIT program may also be used to transition employees to other crafts.

- **Apprentice programs.** The M&R and EEC apprentice programs are now using a four-year curriculum. This same training can be used by the CIT program, and can also be used to update journeyman skills in the C&I function. The CSO is working in conjunction with the EPTC to develop M&R training for the journeyman level, which could also be used by Apprentice and C&I programs. These programs should be used to meet the training needs of craft occupations.

  Continue customizing/improving apprentice and CIT training programs to efficiently accommodate workers new to Western, such as those from other electric utilities who need additional training to fulfill Western's maintenance needs.

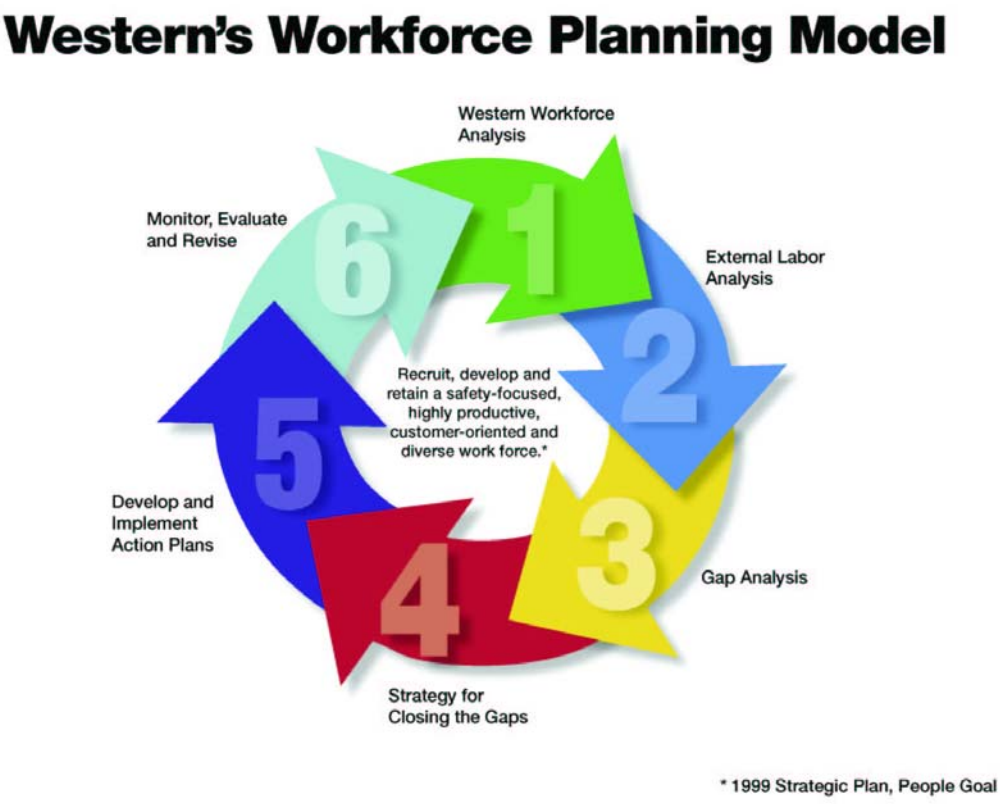
  Place apprentices in locations where the crew sizes are able to support an apprentice position. Have apprentices sign mobility agreements that allow Western to relocate them to duty locations that need employees.

- **Link related tasks.** Technology trends have caused the EEC craft to overlap with the Meter and Relay craft. This has caused a blending of the two occupations to create the Communication and Instrumentation (C&I) Craftsman, also in the WB-2610 series. The C&I craftsmen should be included in the next workforce planning analysis.

Appendix 1

Western's Workforce Planning Model

Western's model of workforce planning centers on Western's goal in its Strategic Plan, People Goal: Recruit, develop and retain a safety-focused, highly productive, customer-oriented and diverse workforce. The model has six steps.



The first is workforce analysis, an internal forecast of overall supply needs for critical occupations. This includes analysis of workforce data such as retirement eligibility dates, age and grade distributions, shortfalls in current skills inventory, and attrition rates. Experts in Western's occupations analyzed strategic objectives, forecast business needs 3-5 years out, anticipated the skills employees would need to meet new challenges, and estimated hiring and training needs for the next 3-5 years. In future years, this step will also include data generated by other human capital management processes, such as employee surveys, leadership development, or recruiting activities.

External Labor Force Analysis and identification of training resources is the second step. It analyzes the capacity of the outside labor market as well as established training programs or on-the-job training to supply Western's forecasted needs. At a minimum, earnings and employment projections industry-wide are analyzed.

Appendix 1

Step 3 is analysis of the gaps in Western's workforce. Information in Step 1 and 2, including statistical analysis of separations, is used to define potential problem areas. These gaps might include shortages in employees or specialized skills. Step 3 also looks at ways to close the gaps considering internal and external labor availability, the future knowledge and skill needs of the occupation, and the range of options. The purpose is to determine what workforce challenges Western will be facing, and offer recommendations to meet those challenges. Recommendations are developed in consultation with subject matter experts and functional managers across Western.

Step 4 is the strategic closure of gaps. The recommendations are provided to senior management, who determine the strategic direction needed to meet the challenges.

Step 5 is the operational closure of gaps, as the strategic direction set forth by senior management in Step 4 is implemented. Approved workforce planning recommendations are forwarded to Western's Human Capital Management Advisor for action in concert with managers and supervisors. Local human resource offices develop operational plans to assure that local needs are met. Other HCM teams, such as Succession Planning or Recruitment Council, assist in implementing senior management's strategic direction.

In Step 6, an assessment of Western's Workforce Planning process is done. Evaluation asks to what extent Western accomplished the strategic direction set by Senior Management in this cycle of workforce planning. It also incorporates new requirements, and recommends enhancements to Western's workforce model and process. Step 6 serves as the foundation for the next year's workforce planning process.

Appendix 2

WORKFORCE PLANNING REPORT
ENERGY MANAGEMENT AND MARKETING SPECIALISTS
AD-301

WESTERN WORKFORCE ANALYSIS

The Energy Management and Marketing Specialist (EMMS) classification is unique to the power marketing agencies. There are two merchant function activities in Western: one in Watertown and the other in Montrose. The main duties of this occupation are energy marketing, power and transmission scheduling, tagging, energy accounting, reporting, and statistical information requests. They must have a thorough working knowledge of all national and regional interchange scheduling criteria and actions that must be taken to comply with those criteria.

Future State: Forecasts from the Subject Matter Experts

1. Please list the strategic objectives this job occupation directly supports.

- Continue to manage our costs. The amount and cost of energy purchased for resale or to support firm load affects the bottom line, which affects our customer's rates. Strategy 1.1.1 Establish and meet rate targets for each project that are responsive to customer needs and cost-recovery requirements. Establish specific annual cost management goals.

- Continue to repay the Federal investment within the periods established by law and regulations. Strategy 1.2.1 Manage power delivery costs, establishing rates for each project sufficient to meet repayment/cost recovery requirements.

- Continuously improve our business systems and follow sound business practices. Strategy 1.4.1 Leverage the capabilities of business systems to achieve functional efficiencies and process improvements.

- Support industry reliability. Accurately projecting and purchasing sufficient capacity and energy to ensure we do not violate operating compliance criteria. Provide assistance to neighboring utilities by selling them energy when they have resource problems. Strategy 3.1.1 Meet or exceed national and regional operating criteria.

- Support industry competitiveness. The merchant function enters into energy transactions to optimize the savings for our firm customers, which keep their rates low.

- Works to protect and maximize the value of the Federal resource. Work with the Corps and BOR to operate the generation in a way that is compatible with endangered species and other river interests.

Western's two merchant functions directly support the strategic objectives listed above by scheduling Western's hydroelectric power and RMGC's excess energy ensuring power is available when customers need it. They also purchase energy for Western's customers when hydroelectric resources are insufficient to meet contractual commitments and purchases power for customers in excess of their Federal allocations when requested. They also market any excess hydroelectric power and RMGC's excess energy and make purchases for resale to augment Western's finances. The efficient and economical execution of these efforts plays a direct role in meeting targets and managing both Western's and our customers' costs.

Merchant function staff continuously works with IT staff to improve Western's marketing and scheduling tools. Industry business practices and the tools to implement those practices are evaluated and both tool and process improvements are adopted to enhance the efficiency of the organization.

The reliability of Western's transmission system is directly supported by the merchant functions through constant monitoring of load/resource balance to ensure dispatchers have the required amount of regulation and reserves to meet control area requirements. They also buy and sell energy for Western's control areas as needed to ensure the reliability offices meet compliance standards.

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g., what do you most want to accomplish? Where will you focus?)

- The ability to purchase energy from regional markets during low water situations.
- The ability to sell energy to regional markets during high water situations.
- Tariffs signed and transmission agreements in place to transport purchased or sold energy.
- Adequate funding in place to purchase energy when needed to supply firm customers and to assist needy neighbors.
- Ensuring adequate software to procure transmission, implement and send and receive energy tags, track and account for energy transactions with other entities.
- Adequate staff to perform involved settlements. The MISO Locational Marginal Pricing (LMP) market will be reality in 2004. It requires hourly price settlements rather than monthly and considerable metered data must be submitted.
- Budget issues to ensure adequate funding to participate in the new energy markets. They perform weekly settlements. Our customers pay us monthly.
- We are focused on procuring energy management software that will allow flexibility and upgrades as the energy markets change.

To accomplish the above requires highly trained, effective and motivated personnel at all levels of the organization. These personnel need access to reliable, cutting edge

resources in order to effectively manage and schedule Western's resources, purchase additional power and market surplus energy. Continuous training and education is necessary to meet the challenges of the constantly changing electric utility industry. The ability to attract and retain a first rate work force and procure modern, efficient software tools are keys to continued success.

3. **Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.**
   The electric utility industry is constantly evolving. New requirements for open access to transmission, transmission capacity shortages, regulations designed to enhance competitive pricing of energy, and other federally mandated shifts in energy priorities ensure that the merchant functions will regularly be impacted with new and varying business practices, software needs and reporting criteria. The key will be to recognize the impacts and quickly adapt business procedures and employee skills to these industry changes. Changes in staffing requirements will depend on industry changes required by the restructuring process. Some of the pending proposed changes could require an increase in staff.

   The Watertown Merchant Function could specifically be impacted by the following:
   - Locational Market Pricing (LMP) combined with day ahead and real-time energy markets will add considerable work load to after-the-fact confirmation and checkout. If/when UGP joins an RTO such as MISO, the workload will become larger than now with only a small percentage of load located in the MISO footprint. This has the potential to require additional FTE to provide meter data and confirmation.
   - If our customer, Basin Electric, continues to expand its WECC Montana market, we will reach a point where we must add a WECC marketing desk. This depends on Basin's rate of expansion. Staffing a WECC marketing desk will require six additional FTE.

   a. **Will these changes require difference numbers or grade levels of employees?**
      Conceivably, the number of employees may change drastically depending on what additional business the merchant functions are asked to assume. Current staffing levels in Watertown are adequate to meet the present workload. Should Basin/RMGC require additional services or the services provided to DSW or other regions be expanded/identified, additional real-time marketers and public utilities specialists may be required.

      Changes to industry standards may also impact staffing levels as the complexity of scheduling and marketing increase.

      Several positions within the merchant functions are staffed by lower graded Public Utilities Assistants and contract staff. The complexity of the work lends itself to higher graded Public Utilities Specialists and should be examined,

especially if the complexity and importance of their duties increases with changes in the industry.

b. Will these changes require different knowledge and skills of the employees?
Certainly, increased complexity within the electric utility industry may necessitate an increased level of expertise of the merchant function staff. This has already been the case in Montrose over the last few years, especially among the EMMS staff. Knowledge and skills of some of the EMMS staff was sufficient at the inception of the merchant function; however the knowledge and skills requirements have increased for new applicants each and every time recruiting has been done. Training of existing staff to meet the increasing complexity of the job has been fairly successful to date, and ongoing development of a training program for EMMS staff is a concern.

The electric utility industry is moving toward formal certification of electricity marketers. If certification becomes necessary, Western's EMMS staff will need to take the necessary industry standard training and pass the certification exams. Although some of the EMMS staff is presently certified as Reliability Dispatchers they will also need to become certified as marketers.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

a. What currently are our greatest strengths and weaknesses within Western for being able to get the right people in this occupation on your projects?
The greatest strength within Western is the range of existing positions that prepare Western staff to be successful in applying for jobs within the merchant function, at least at the entry level.

FTE ceiling and budget could impose restrictions. Merchant pay is lower than dispatcher pay, making it hard to attract well qualified operations people.

The lack of a formal training program and/or an intern program is a threat.

A great threat is the recruitment process. It has been difficult to fill EMMS positions in Montrose with qualified personnel. The problem exists due to many reasons: 1) EMMS positions exist only in Montrose and Watertown. 2) Journeymen dispatchers have several of the KSAs and experience needed for the EMMS position but lack significant other skills and experience to qualify them as true electricity marketers.

b. What currently are our greatest opportunities and threats from outside Western for being able to get the right people in this occupation on your projects?

Appendix 2

The greatest opportunity for recruitment outside of Western should be electricity marketers in the industry. However, although these marketers have the experience and KSAs necessary, most will not apply due to the pay disparity between the industry's marketers and Western's. The pay plan does not adequately address these issues as it compares only marketers in similar utilities to Western rather than marketers from across the industry. This is evidenced by the lack of qualified marketers applying for Western vacancies even though the industry in general has reduced market staffs and pay in the past year. With the industry hurting one would expect a multitude of qualified journeyman marketers applying for vacancies. Instead there are few or none. Recent selections have been made at the lower graded levels and the individual trained internally for the EMMS position.

Many applications at the lower grades (and even at the AD-4 level) are received by persons with very little or no experience in the electric utility industry. Many of these applicants are deemed minimally qualified. Recent endeavors by management to strengthen the minimum qualifications are under way, but have been met with limited success.

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Break out your responses by supervisory and non-supervisory positions.

Forecasted Staffing of AD-301s 3-5 Years Out (2006-2008)
Watertown

Level	AD-2 or below		AD-3		AD-4 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low					3	1	3	1	**4**
High					9	1	9	1	**10**

NS = Non-Supervisory
S = Supervisory

Forecasted Staffing of AD-301's 3-5 Years Out (2006-2008)
Montrose

Level	AD-2 or below		AD-3		AD-4 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low					4	1	4	1	**5**
High					9	2	9	2	**11**

NS = Non-Supervisory
S = Supervisory

The above assumes that the positions can be filled at the full performance level. Based on recent hiring experiences any or all of them may have to be filled at the lower grades with training required to bring the individuals to the AD-4 level. The supervisory ADs above are a response to increased AD staff in Montrose and the need to provide a higher level of oversight of the staff functions.

6. **Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?**
It is recommended that there be a combination of filling the positions from inside and outside.

Outside recruitment can provide qualified experienced AD-4 level applicants if the pay disparity is addressed. Western's Reliability AD-4's may not apply for EMMS positions as their pay now exceeds that of the EMMS AD-4. If the two successive years of disparity in raises between the Reliability and EMMS ADs continues, the problem will be exacerbated.

At the lower grades of AD, external recruitment should become more successful as the two merchant functions work with HR to improve the recruitment effort. They will continue to rely upon Western applicants with some operations experience as potential selections for the lower graded trainee positions. The only drawback of selections made at the lower grades is the immediate need for them to work the real-time desks with less than ideal amounts of experience until they are properly trained and have gained the necessary experience to fully handle all of the issues that arise during their shifts.

   a. **Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).**

   It is not recommended that alternative forms of staffing be implemented at this juncture. The market place is changing rapidly requiring training for the present staff and leaving little time to train alternative types.

   The development of an EMMS intern program similar to that of the Dispatcher intern program would help in training staff for the full performance level of the EMMS position. During their tenure in the internship there are some positions that these individuals may be able to occupy until a position is vacated: pre-scheduling, post-scheduling, tagging, and after-the-fact checkout.

   Student career programs, due to their relaxed recruiting rules, could also offer a means to hire and train EMMS positions, especially if the students can start in positions occupied by contractors and public utilities technicians, working in these positions while training for the EMMS position.

Appendix 2

b. If you identified any alternative methods, what has been your experience in the past using these methods?
The two offices have had no experience with alternative methods.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?
Changes can come fast, requiring additional FTE without much notice.

The Robo-Cop method, which is currently becoming more popular with managers, shows signs of helping provide more qualified candidates in the recruitment process. However, minimum qualifications for EMMS positions need to be established so that only truly qualified applicants are considered for the positions.

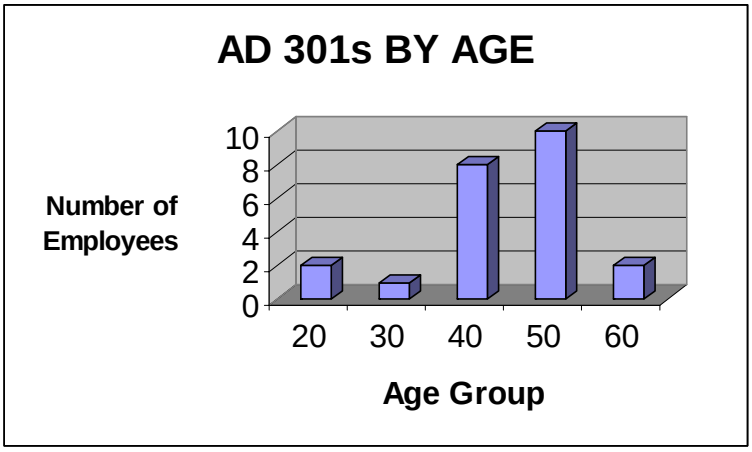
8. Do you have any suggestions for improving the workforce planning process?
Identify the impediments to successfully selecting the best-qualified applicants in the present recruiting system and fix them.

Identify entry level positions within Western, both contract and Federal, that could be filled with an eye toward promotion into the EMMS and Reliability AD positions.

9. Employee Data

Employee Age Distribution in Occupation

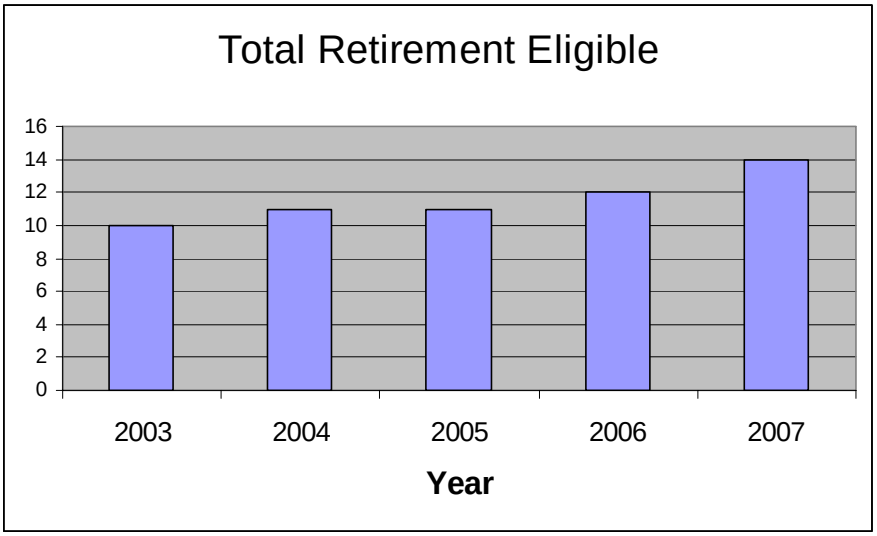
Occupational Series	Age Group	Count
00301	20	2
00301	30	1
00301	40	8
00301	50	10
00301	60	2



Appendix 2

Supervisors/Employees in the Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Occupational Series	Fiscal Year	Non-supervisor Early Retirement Eligible	Supervisor Early Retirement Eligible	Non-supervisor Optional Retirement Eligible	Supervisor Optional Retirement Eligible	Total Supervisor Retirement Eligible	Total Non-supervisor Retirement Eligible	Total Retirement Eligible
00301	2003	7	1	2	0	1	9	10
00301	2004	6	0	4	1	1	10	11
00301	2005	5	0	5	1	1	10	11
00301	2006	6	0	5	1	1	11	12
00301	2007	6	0	7	1	1	13	14



OEID Data

As of the end of FY 02, Western employed 21 permanent energy management and marketing specialists. As of August 9, 2003, Western employed 24, which is 1.8 percent of the Western workforce, and an increase of 0.2 percent from FY 02. Minorities (2) represent 8.3 percent of the group, which is an 8.3 percent increase from FY 02. Females (5) represent 20.8 percent and males (19) represent 79.2 percent of the group.

Energy management and marketing specialists are considered part of the administrative category for professional, administrative, technical, clerical, other and blue color (PATCOB) reporting purposes. As of August 9, 2003, Western employs 405 permanent administrative employees. This group consisted of 144 non-minority females, 200 non-minority males, seven Black males, two Black females, 14 Hispanic males, 20 Hispanic females, four Asian females, six Asian males, three American Indian females and five American Indian males. As compared to the civilian labor force, Western is under-represented by 38.5 non-minority males, 3.7 Black females, a 0.7 Black male, 1.4 Hispanic males, and 0.9 Asian female, and 2.9 Asian males.

Appendix 2

Western's energy management and marketing specialist workforce as of August 9, 2003, is comprised of 17 non-minority males, 5 non-minority females, and two Hispanic males.

EXTERNAL LABOR FORCE ANALYSIS

In this section the potential to recruit from the U.S. labor workforce will be examined using information provided by the Department of Labor.

1. **Forecast of Electric Industry Employment in Occupation (i.e., degree of competition for labor supply)**
   The Department of Labor (DoL) provides forecasts for industries and specific occupations over 10-year period. The data used for this question represents a forecast from 2000 to 2010 for occupations related to the Electric Services industry. The Energy Management and Marketing Specialist as used at Western does not appear in the DoL database as a unique listing. For purposes of this report, the DoL category of Power Plant Operators, Distributors, and Dispatchers is used. Overall, that category is forecast to decline in numbers by 7.6% in the ten year period. However, the DoL Bureau of Labor Statistics report says "little or no change … is expected through the year 2010, as the industry continues to restructure in response to deregulation and increasing competition." It goes on to say that utilities are attempting to reduce costs, and thus the number of overall jobs is decreasing. The report also says that the slow pace of new plant construction, low turnover rates, and the increasing use of more efficient equipment, reduces the need and demand for new employees in this field.

2. **Forecast of Available Labor Supply in Occupation**
   As other utilities downsize to reduce costs, and the total number of employees in this field decrease by over 7 percent in the 10-year period, there would appear to be opportunities for Western to hire qualified replacements for those who separate from Western. Also, according to DoL analysis, potential employees with training in computers and automated equipment would have the greatest potential for being hired.

Appendix 3

WORKFORCE PLANNING REPORT
POWER SYSTEM DISPATCHERS, AD-303

WESTERN WORKFORCE ANALYSIS

The Power System Dispatcher classification includes several disciplines (or skill sets). As the industry changes due to RTO formation, or implementation of Standard Market Design, new tools may be needed to accomplish the operations function. The skills and the numbers of people with these skills will depend on the magnitude of the changes that are made in the industry.

Western has the following functional specializations within the AD-303 (non-supervisory), classification:

- Transmission Switching
- Generation Control
- Interchange Scheduling (or Transmission Scheduling and Security)
- Operations Specialist (Trainer & Outage Coordinator)

All of these specializations have similar general requirements, but vary when it comes to specific job requirements. However, in some cases portions of the technical requirements do overlap. For example most of the requirements for Transmission Scheduling and Security and Transmission Switching are very similar. It is also important to note, that while in some of the specializations it is relatively easy to transition from one to another, in other cases it is not. For example, a Transmission Switching Dispatcher might easily transition into Interchange Scheduling desk, but would have a difficult time working at the Automatic Generation Control desk (AGC) without some training. These variations in job requirements are not considered, the statistics included in this report contains generalization over all AD-303 positions.

Future State: Forecasts from the Subject Matter Experts

1. Please list the strategic objectives this job occupation directly supports?

a) Maintain the power system reliability.
b) Continuously improve our business systems and follow sound business practices.
c) Maintain compliance with applicable standards.
d) Continue to manage our costs.
e) Attract a diverse, well qualified pool of applicants.
f) Keep up with the changes in the industry, and the changing reliability roles and responsibilities that North American Electrical Reliability Council, NERC; Federal Energy Regulatory Commission, FERC; Congress, Regional Transmission Organizations, RTO; and others are placing on electrical utility industry and Western.
g) Continuously improve our business practices and to increase efficiency and effectiveness.

Appendix 3

In addition the Sierra Nevada Region, SNR, is focusing on starting operation as either a NERC/Western Electricity Coordinating Council (WECC) certified control area, or a Metered Subsystem with the California Independent System Operator (CAISO).

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)

a) Keeping up with the changing reliability roles and responsibilities that are being driven by NERC and FERC. Changes in the organizations following the new NERC Functional Model.
b) Maintaining compliance with applicable operating standards.
c) Operate Safely.
d) Automating systems necessary for 1a.
e) Day-to day operations of the power system.
f) Keeping computer tools current to follow power system changes.
g) Keeping RTO development in perspective. If we stay out of an RTO, we will need to address seams issues with the Midwest ISO and other neighboring RTO/ISOs.

SNR's primary focus will be to begin operation as either a NERC/WECC certified control area, or a Metered Subsystem (MSS) with the California Independent System Operator (ISO). Since this region has never operated as a control area or as a sub-control area, SNR is in the process of staffing up, training, developing operating procedures, and implementing new hardware and software systems to begin operation in the new regime. Need to have resolved RTO involvement.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

Industry changes are inevitable due to changes in NERC, MAPP, and WECC requirements, FERC market design changes, and the ISO market changes in response to the FERC initiatives. These changes could create dramatic changes to existing control areas. The move to RTO's may place different obligations and needs on our work force. Once changes are identified actions can be taken to respond. Reliability requirement changes may require many changes to our SCADA systems, and possibly procurement of new SCADA systems to implement the operational changes. Additional software tools will require training the people who must operate the system. Additional training staff may be necessary with expertise in the software systems. This new staff will have to be trained in system operations so that they understand the needs of the real-time staff.

Industry changes in market design, such as Locational Market Pricing (LMP) and other transmission congestion management schemes require complex modeling to

make them functional if implemented. Changes in scheduling and other operational protocols due to market changes will require changes to scheduling software, automation of reporting to various agencies of different data, and changes to settlement software to implement new charges as they are developed.

a. Will these changes require different numbers or grade levels of employees?

In most regions no major adjustments in the grade or numbers of dispatcher employees are foreseen. But as indicated above, there may be a need for more computer support and training for the new operational tools. Additional training staff with software expertise as their primary qualifications is expected to be necessary. This may change the numbers and classification of computer support employees, and will possibly change the grade levels so that we can attract experienced and highly qualified staff. In case of joining RTO, some regions may potentially reduce the number of dispatcher's positions.

b. Will these changes require different knowledges and skills of the employees? If so, please explain.

Functions within these positions will continue to change as changes in the industry develop. A major transitional effort to the new structure and implementing IT solutions to obtain and integrate new automated systems will be required. Generally the change in skill sets that started with FERC Order 888 will continue.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

a. What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?

Western has not had recent problems with recruiting or retaining qualified dispatchers. Past problems were due to wage scales imbalance. The AD pay scale helps recruit and retain skilled employees. Also recent reductions in power marketing organizations have made well qualified applicants available for vacant positions.

For UGP, location appears to be a major constraint in obtaining new employees. Recent vacancies have taken longer than normal to fill and location has been mentioned as a problem. This is not a new issue for Watertown. They have been able to hire well qualified employees. It just takes a little longer and sometimes the positions must be offered to more than one person. Generally, pay is no longer a barrier to hiring dispatchers.

Appendix 3

b. What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?

Top Opportunities
Recent reductions and collapse of power marketing organizations has made a large pool of well qualified and knowledgeable candidates available for hiring dispatchers.

Top Threats
Industry changes occurring faster than staff can adapt. Unknown workload if RTOs become the norm. Changes in market design, if Locational Market Pricing (LMP) or other transmission congestion management methods are implemented, would create a skill gap. This would then require new training programs to catch up with the changes.

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.

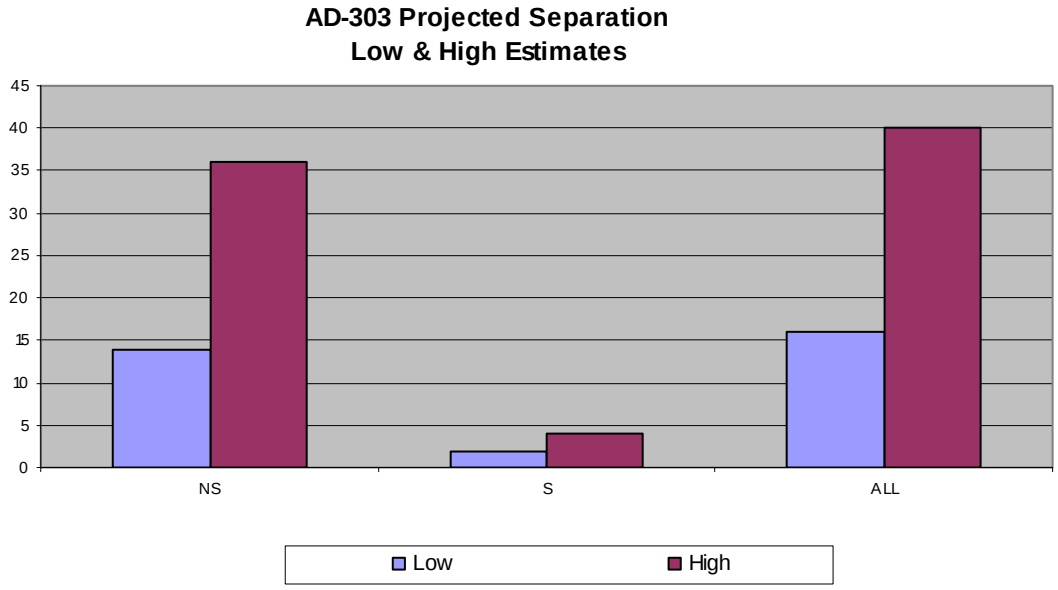
Forecasted Staffing of AD-303 3-5 Years Out (2006-2008)

	Level	AD-3 or below	AD-4	AD-5	AD-6	TOTALS		
		NS	NS	NS	S	NS	S	ALL
DSW	Low	0	2	0	0	2	0	**2**
	High	0	6	3	1	9	1	**10**
RMR	Low	0	0	1	0	1	0	**1**
	High	0	5	3	1	8	1	**9**
SNR	Low	0	5	1	1	6	1	**7**
	High	0	8	1	1	9	1	**10**
UGP	Low	0	4	1	1	5	1	**6**
	High	0	7	3	1	10	1	**11**
TOTALS					Low	**14**	**2**	**16**
					High	**36**	**4**	**40**

NS = Non-Supervisory S = Supervisory

Over the next 3-5 years, expect from 16 to 40 dispatcher employees to be hired, of which 2 to 4 are expected to be supervisory.

Appendix 3



6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

Interns have been effective in filling the dispatcher positions in the past and we intend to continue. This type of program should be expanded to people outside of Western. This maybe through a student type program with a school that has the appropriate curriculum. Student program helps retain local people.

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

Alternative forms of staffing can not be considered for the power system dispatcher positions. These positions do not lend themselves to part time work or job sharing. Upward mobility is one method that can be used to staff these positions provided the individuals have the proper psychological make up. Contracting is not an option due to mission criticality of these positions. The dispatch function makes decisions on protection of the Federal investment, commits Federal dollars, and directs the use of Federal resources every hour of the day. A contractor can not do this because such decision making must be done by Federal employees as a matter of law. The training function for new software systems is the only part of one position that could be contracted out. This function does not currently reside in operations, but is included in the IT support.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

See ”a” above.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

No.

8. Do you have any suggestions for improving the workforce planning process?

The SME interview process, if performed on an annual basis may provide useful Western-wide information, but will not be significantly beneficial to the Regions in relation to the power system dispatch occupation. A more non-routine approach may stimulate thinking and planning better in the long term.

Appendix 3

Employee Data

1. **Actual Separations / Attrition Rate (retirements and others) in Occupation**

Actual Separations For the AD-303 Occupation Over Past Five Years*

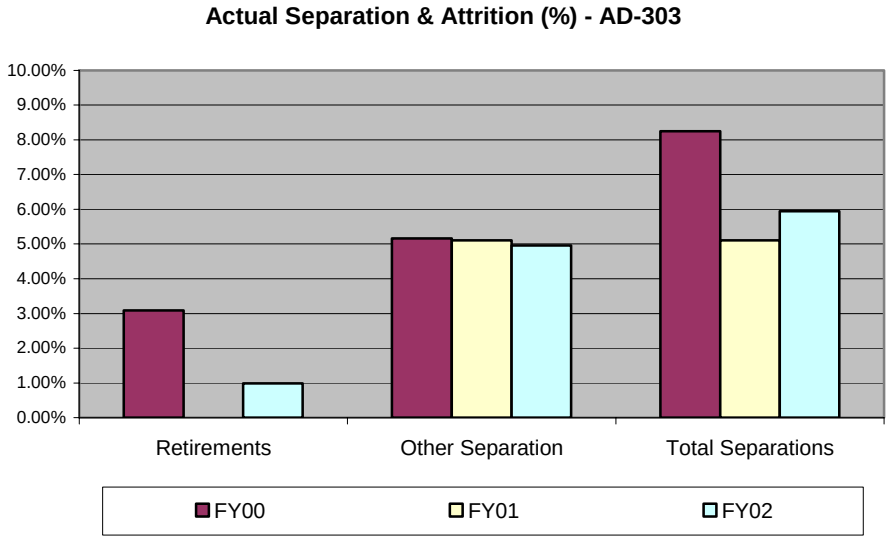
Fiscal Year	Retirements		Other Separation		Total Separations	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	3	3.09%	5	5.15%	8	8.25%
FY01	0	0.00%	5	5.10%	5	5.10%
FY02	1	0.99%	5	4.95%	6	5.94%
Total All Years	4	1.36%	15	5.08%	19	6.43% (Average 3 Year)

Other = Resignations and/or terminations
Retire = Early Out, Regular Retirement and Disability Retirements

* The base number of people in each fiscal year was calculated by taking the average of the total number of people in that occupation on the first and last day of the fiscal year.

** FY03 data was from the first day of the fiscal year through August 30, 2003, i.e., the day of the data run for this report.

The average attrition Rate from FY2000 through FY2002 is 6.4% (19 people over 3 years) for AD-303 occupation. It seems that the attrition due to separations other than retirement is more than three times that of the regular retirement rate.



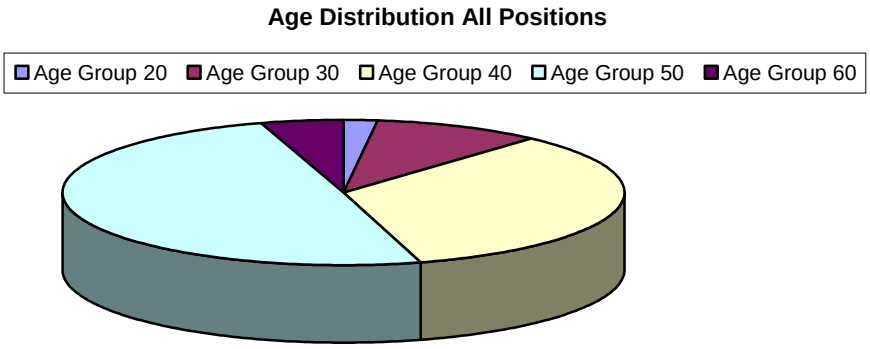
Appendix 3

2. Employee Age Distribution in Occupation

Age Distribution in the AD-303 Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
2	10	35	51	5	**103**

Average age of employees in the AD-303 Occupation is 44 years. However almost 50% of the employees in this occupation are in the 50-59 years range.

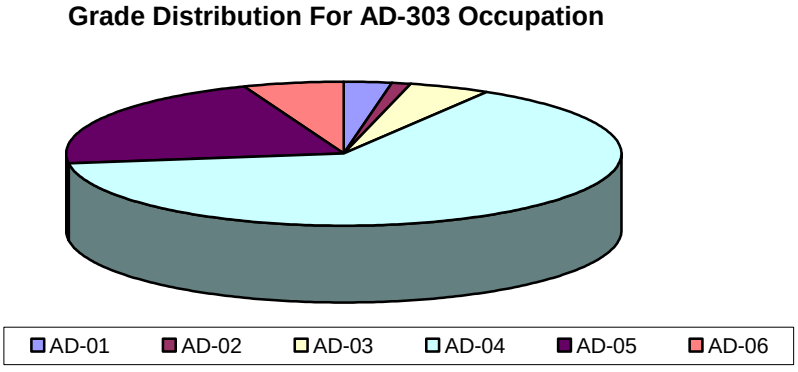


3. Employee Grade Distribution in Occupation

Grade Distribution in the AD-303 Occupation

AD-01	AD-02	AD-03	AD-04	AD-05	AD-06
3	1	5	66	22	6

AD-04 is where the majority of the workforce for the AD-303 occupation is needed and that is where the employees are concentrated. Considering the fact that more than 50 % are in the 50-59 age range, the number of employees in the trainee positions, 9, seems low.



Appendix 3

4. Supervisors/Employees In the AD-303 Occupation Eligible for Retirement (Early and Optional) For Next Five Years

Retirement Eligibility By Year and Type

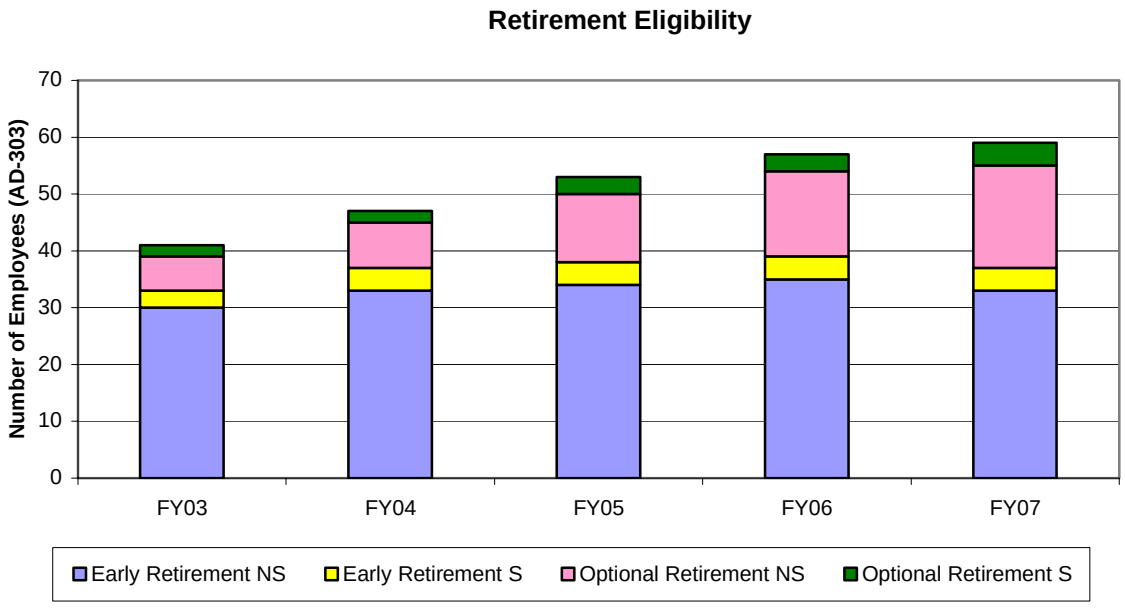
Years	Early Retirement**		Optional Retirement*		All Retirements		Total
	NS	S	NS	S	NS	S	
FY03	30	3	6	2	36	5	41
FY04	33	4	8	2	41	6	47
FY05	34	4	12	3	46	7	53
FY06	35	4	15	3	50	7	57
FY07	33	4	18	4	51	8	59

NS = Non-Supervisor; S = Supervisor

*: The number of Optional Retirement eligible is determined by the number of employees with a "projected_retirement_date" less than or equal to the given fiscal year.

**: The number of Early Retirement eligible is determined by the number of employees with an "early_retirement_elig_date" less than or equal to the given fiscal year AND their "project_retirement_date" is greater than that fiscal year.

Data as of pay period 200316



Appendix 3

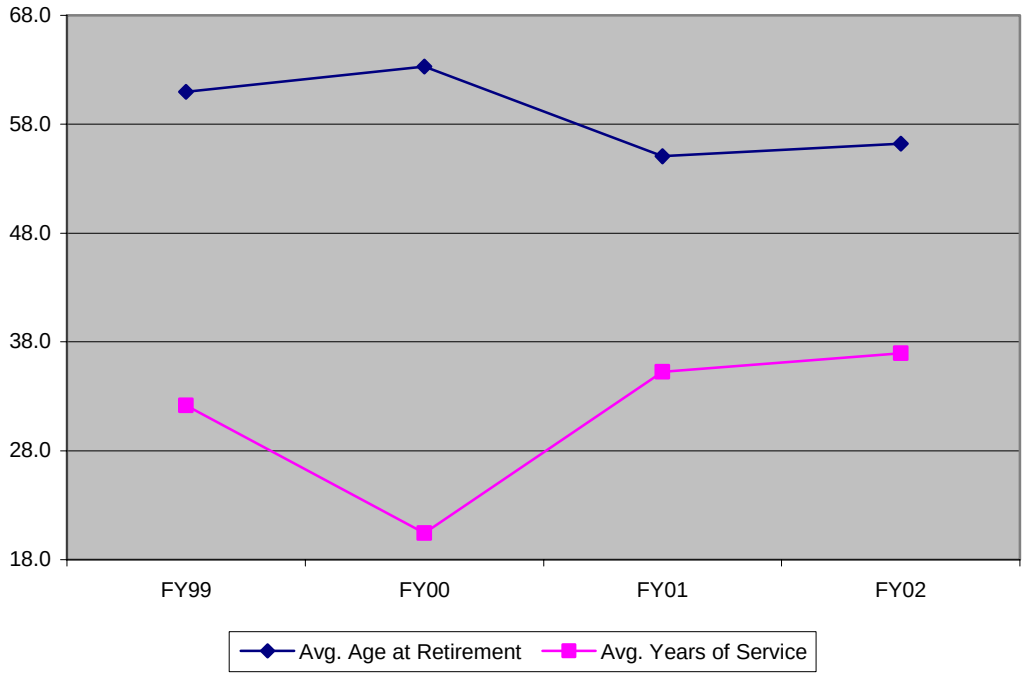
5. Average Length of Time Employee Stays Past Retirement Eligibility

Average Age/Years at Which AD-303 Employees Retire

AD-303 Optional Retirement				
Fiscal Year	Number of Retirees	Avg. Age at Retirement	Avg. Years of Service	Avg. Years Past Eligibility
FY99	2	61.0	32.2	3.5
FY00	2	63.3	20.4	2.3
FY01	1	55.1	35.2	0.0
FY02	1	56.2	37.0	1.2

AD-303 Early Retirement				
Fiscal Year	Early Retirements	Avg. Age at Retirement	Avg. Years of Service	Avg. Years Before Eligibility
FY00	1	54.9	22.2	5.1

Retirements



Appendix 3

OEID Data

Western – Dispatchers, AD-303

As of the end FY02, Western employed 101 permanent dispatchers. As of August 9, 2003, Western employs 103 AD-303 power system dispatchers which is 7.9 percent of the Western workforce, a decrease of 0.17 percent from FY02. Minorities (7) represent 6.8 percent of the group which is a 0.13 decrease from FY02. Females (5) represent 20.8 percent and males (19) represent 79.2 percent of the group.

Dispatchers are considered part of the technical category for professional, administrative, technical, clerical, other, and blue collar (PATCOB) reporting purposes. As of August 9, 2003, Western employed 225 technical employees. This group consists of 141 non-minority males, 56 non-minority females, one Black male, five black females, eight Hispanic males, eight Hispanic females, one Asian male, three Asian females, one American Indian male, and one American Indian female. As compared to the civilian labor force, Western for third quarter FY03 is under-represented by 25.9 non-minority females, a 0.6 black female, 3.1 Black males, one Hispanic female, a 0.5 Hispanic male, 1.7 Asian females, 5.1 Asian males, a 0.6 American Indian male and a 0.4 American Indian male.

As of August 9, 2003, Western's dispatcher workforce is comprised of 87 non-minority males, nine non-minority females, four Hispanic males, one Black male, one Asian male, and one American Indian male.

EXTERNAL LABOR FORCE ANALYSIS

In this section the potential to recruit from the U.S. labor workforce will be examined using information supplied by Department of Labor.

1. Forecast of Electric Industry Employment in Occupation (i.e., degree of competition for labor supply)

The Department of Labor (DOL) provides forecasts for industries and specific occupations over a ten year period.

Excerpt From the Occupational Outlook Handbook, 2002-03 Edition

Significant Points

- Overall employment of operators, distributors, and dispatchers is expected to change little due to increasing industry competition.
- Opportunities will be best for operators with training in automated systems.
- Little or no change in employment and low turnover will result in few job opportunities.

Appendix 3

Power plant operators, distributors, and dispatchers held about 55,000 jobs in 2000. Jobs are located throughout the country. About 8 in 10 worked for utility companies and government agencies that produced electricity. Others worked for manufacturing establishments that produced electricity for their own use.

Little or no change (increase 0 to 2 percent), in employment of power plant operators, distributors, and dispatchers is expected through the year 2010, as the industry continues to restructure in response to deregulation and increasing competition. The Energy Policy Act of 1992 has had a tremendous impact on the organization of the utilities industry. This legislation has increased competition in power generating utilities by allowing independent power producers to sell power directly to industrial and other wholesale customers. Utilities, which historically operated as regulated local monopolies, are restructuring operations to reduce costs and compete effectively and, as a result, the number of jobs is decreasing.

People who want to become power plant operators, distributors, and dispatchers are expected to encounter keen competition for these high-paying jobs. Little or no change in employment and low turnover in this occupation will result in few job opportunities. The slow pace of new plant construction also will limit opportunities for power plant operators, distributors, and dispatchers. Increasing use of automatic controls and more efficient equipment should increase productivity and decrease the demand for operators. Individuals with training in computers and automated equipment will have the best job prospects.

2. Forecast of Available Labor Supply in Occupation

Employers seek high school graduates for entry-level operator, distributor, and dispatcher positions. Candidates with strong math and science skills are preferred. College-level courses or prior experience in a mechanical or technical job may be helpful. Employers increasingly require computer proficiency, as computers are used to keep records, generate reports, and track maintenance. Most entry-level positions are helper or laborer jobs, such as in power line construction. Depending on the results of aptitude tests, worker preferences, and availability of openings, workers may be assigned to train for one of many utility positions.

Appendix 4

WORKFORCE PLANNING REPORT
ELECTRICAL AND ELECTRONICS ENGINEERS

WESTERN WORKFORCE ANALYSIS

Electrical Engineers (GS-850) perform a variety of functions, including transmission planning and operations studies; designing substations and transmission lines; writing equipment and construction specifications; providing power system maintenance support; and providing engineering support during all phases of power system construction, operation and maintenance including reliability compliance.

Electronics Engineers (GS-855) design supervisory control and data acquisition systems. They also design other communications systems and develop standards for system control and security of transmission facilities. In addition, they provide power system operation and maintenance support and work in telecommunications, which may include writing contracts for telephone systems, managing radio frequencies, and dev eloping instructions for the operation and maintenance of radio communication equipment.

Future State: Forecasts from the Subject Matter Experts

The following data was provided by Western Electrical and Electronics Engineer Subject Matter Experts in Regional and Corporate Services Offices via a Business Forecasting & Workforce Planning survey:

1. **Please list the strategic objectives these job occupations directly support.**
   These occupations directly support the following strategic objectives from Western's Annual Performance Plan:

   GS-850
   - Continue to manage our costs.
   - Secure adequate funding to accomplish our mission, goals, and objectives.
   - Continuously improve our business systems and follow sound business practices.
   - Ensure everyone at Western is aware of, committed to, and has the tools to work safely.
   - Select individuals whose technical abilities, competencies, and personal goals best match the job and organizational objectives.
   - Develop and retain a highly skilled, motivated, customer-focused work-force.
   - Provide exemplary customer service.
   - Support industry reliability.
   - Protect and maximize the value of the Federal resource.
   - Ensure long-term transmission system reliability and availability.

   GS-855
   - Continue to manage our costs.
   - Continuously improve our business systems and follow sound business practices.

- Develop and implement security plans.
- Ensure everyone at Western is aware of, committed to, and has the tools to work safely.
- Provide exemplary customer service.
- Support industry reliability.
- Meet or exceed national and regional operating criteria.
- Ensure long-term transmission system reliability and availability.
- Participate in national and regional reliability/transmission organizations and transmission studies.

2. What are your most important business priorities influencing the work and work environment for these occupations? (e.g. What do you most want to accomplish? Where will you focus?)

GS-850
Cost efficient and reliable designs. To make the power system safe and reliable for the employees and customers. Safety can normally be included in the design and operation of the system. This, at times, requires replacement of equipment. Reliability requires monitoring, maintenance and also replacement of unreliable or high maintenance equipment. Long-term planning for power system capital investments; maximizing the effectiveness of the power system maintenance organization, and providing Operations and Maintenance engineering support.

GS-855
Application of new technologies such as fiber optics and digital radio communications systems, long-term planning for power system capital investments, and operational changes such as project management will influence this job series most in the next five years. The operational change requires an investment in new technologies and systems to accomplish the business/meet power system reliability requirements.

Restructuring of the electrical utility industry will also dramatically influence this classification. A very detailed understanding of the industry is required to implement the business changes because the changes are directly related to automation and computer systems.

Producing cost efficient and reliable designs.

Keeping up with maintenance activities and non-routine work while doing the job safely.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

Appendix 4

GS-850

Currently, and for the next five years or more, Western will be replacing outdated, high maintenance equipment. The new equipment is using new technology that changes faster than our current replacement rate. This requires constant training or research that reduces productivity.

Customer load growth and replacement of interconnected customer equipment requires Western to add or replace equipment in our substations. Western has also reduced staffing in some areas or has obtained more work due in large part to increased bookkeeping and tracking requirements. While the work is still required to be completed, it must be spread over a number of employees (shifted). As this seems to be the trend to pass the work on (normally derived from more automated processes such as accounting, timekeeping, purchasing and other programs) staff will need to be increased to handle the normal engineering duties and increased paperwork.

a. Will these changes require different numbers or grade levels of employees?
Budget constraints may reduce the need for Project Managers. Oversight may increase the need for Engineers. May need higher grades to retain senior talent.

b. Will these changes require different knowledge and skills of the employees? If so, please explain.
More computer and networking skills. In addition, a thorough understanding of the institutional changes will require foresight, strategic planning for employee development and retention. This will be a serious challenge since Western is operating in a much more competitive pool.

GS-855

Changes include industry restructuring at a national level and local level, power marketing changes and operational changes, DOE and OMB security and budget oversight, and process automation.

a. Will these changes require different numbers or grade levels of employees?
Increased administrative oversight of projects may increase the need for engineers and may require higher grades in order to retain senior talent. Conversely, budget constraints may reduce the need for Project Managers.

b. Will these changes require different knowledge and skills of the employees? If so, please explain.
Rapidly changing technology will continue to require new specialized knowledge but these new skills will likely be developed with special training. Employees possessing specialized skills are making a premium salary in the private sector and are making it difficult for the government to compete. DOE and OMB are also requiring much more detailed paperwork for budget tracking and project management of increasing smaller projects.

Appendix 4

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

GS-850

a. What currently are our greatest strengths and weaknesses within Western for being able to get the right people in the occupation on your projects?

Strengths

Job security, diversity of work and location of work, rapid advancement for new hires, responsible assignments

Weaknesses

Salary at mid levels (GS-11 and 12) not competitive with industry, hiring process (QuickHire), amount of travel and location of work, lack of sensitivity or openness to critical and constructive feedback from within.

b. What currently are our greatest opportunities and threats from outside Western for being able to get the right people in this occupation on your projects?

Opportunities

Abundance of qualified people available to select from, diversity of work, alternative work schedules, location of work and economy

Threats

Source of qualified people will eventually be depleted, pay/benefits of private work normally higher, amount of travel and location of work can cause problems, rising economy could affect retention of good Engineers (potential loss of experienced staff), lack of challenge due to lack of construction projects for on-the-job training and learning

GS-855

a. What currently are our greatest strengths and weaknesses within Western for being able to get the right people in this occupation on your projects?

Strengths

Relative job security, nationwide applicant process, challenging projects, good work environment, rapid advancement for new hires, responsible assignments.
NOTE: Many interchangeable answers between a and b.

Weaknesses

Outside competition, some duty locations, pay not comparable to private industry, and Quick Hire (inflated self- assessments, general hiring procedures).
NOTE: Many interchangeable answers between a and b.

b. What currently are our greatest opportunities and threats from outside Western for being able to get the right people in this occupation on your projects?

Appendix 4

Opportunities
Training, location, salaries, varied work, constant workload. **NOTE: Many interchangeable answers between a and b.**

Threats
Present economy has generated more qualified applicants but as the economy improves, these sources will diminish. Government regulation and contracting out core work. **NOTE: Many interchangeable answers between a and b.**

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs.

Forecasted Staffing Needs of Electrical Engineers (2005-2007)

Level	GS-11 or below		GS 12/13		GS 14 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low	0	0	2	0	0	1	2	1	3
High	0	0	13	0	1	3	14	3	17

NS = Non-Supervisory S = Supervisory

Forecasted Staffing Needs of Electronics Engineers (2005-2007)

Level	GS-11 or below		GS 12/13		GS 14 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low	2	0	3	1	0	0	5	1	6
High	4	0	6	3	0	4	10	7	17

NS = Non-Supervisory S = Supervisory

6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

GS-850

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).
Recommend hiring through GS-13 from the outside and GS-14 and above from within. However, both methods (hiring from within and from outside) are helped when there are clear promotion paths established. The end result is to hire from outside to maintain staff. At times, hiring from outside is the only way to get the needed qualifications.

Some of the work (work normally requiring only a small amount of guidance) can be completed by students or others. Temporary help (perhaps hiring back retired employees) should also be considered as well as establishing some engineering rotation positions to bring people up to speed with Western's business.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Temporary contractor for updating databases. Also, hiring Apprentices and lower graded employees to perform duties of limited scope and complexity has worked in the past, but is not recommended for offices that are understaffed. The productivity of the staff normally drops because of the amount of time it takes to train inexperienced employees.

Engineering rotation programs and student programs have served Western very well. We should continue the practice.

GS-855

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

Hire from within due to skill and experience level required (especially Supervisory Engineers and GS-13s). Consider student career and rotation programs for engineers. Also job sharing for a fixed amount of time. Promoting from within is desirable if enough ability and relevant experience in-house is available, but recruitment from the outside has also been successful.

Internal rotation programs for recent college graduates can also work to provide new employees a broad understanding of how the entire organization operates. Also offers career advancement potential in other sections of the organization.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

There is a need for full-time professional positions. However, a student career program with the 'overhire' or 'backfill' could also be successful. Rotation program has also worked very well.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

GS-850 None **GS-855** None

8. Do you have any suggestions for improving the workforce planning process?

GS-850

Need to get senior/journeyman level engineering salaries up to balance inequities with the crafts. Often, GS-12 engineers work side-by-side with craftsmen on overtime with engineering earning 85 percent of normal salary while the craftsman is earning $45 to $60 per hour.

People need to see and hear a sustained commitment to workforce planning from the top of the organization rather than in an exercise that results in a report on the book

shelf. Western used to do this very well; we need to hang on to the good practices that yielded good dividends.

GS-855
Need to get senior/journeyman level engineering salaries up to balance inequities with the crafts. Often, GS-12 engineers work side-by-side with craftsmen on overtime with engineering earning 85 percent of normal salary while the craftsman is earning $45 to $60 per hour.

When individuals plan to retire, the organization should evaluate the necessity to hire an understudy so transfer of knowledge and experience help the transition. In the next 10 years Western will have many experienced employees retiring. Backfilling these positions after they have gone will cause significant delays in projects across Western.

Appendix 4

Employee Data

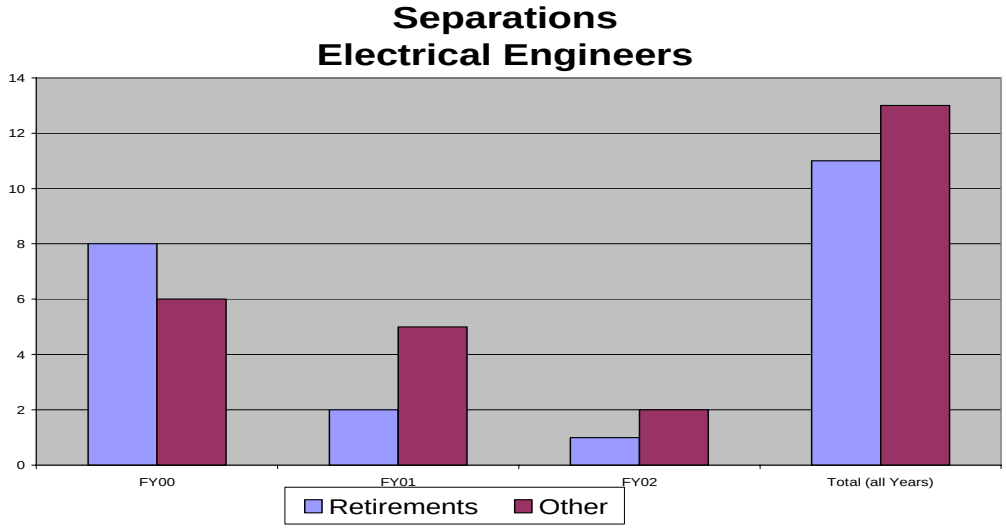
9. Actual Separations/Attrition Rate (retirements and others)

Actual Separations for the Electrical Engineer Occupation Over Past Three Years

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	8	6.6%	6	5.0%	14	11.6%
FY01	2	1.7%	5	4.3%	7	6.0%
FY02	1	0.8%	2	1.6%	3	2.4%
Totals (all Years)	11	3.0% (3-yr avg.)	13	3.6% (3-yr avg.)	24	6.7% (3-yr avg.)

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

NOTE: The average attrition rate from FY2000 through FY2002 was 6.7 percent (24 people over 3 years). Note that over half of all attrition is due to circumstances OTHER THAN retirements.



Actual Separations for the Electronics Engineer Occupation Over Past Three Years

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	2	5.1%	0	0%	2	5.1%
FY01	2	5.7%	1	2.9%	3	8.6%
FY02	2	5.6%	0	0%	2	5.6%
Totals (all Years)	6	5.5% (3-yr avg.)	1	1.0% (3-yr avg.)	7	6.4% (3-yr avg.)

Appendix 4

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

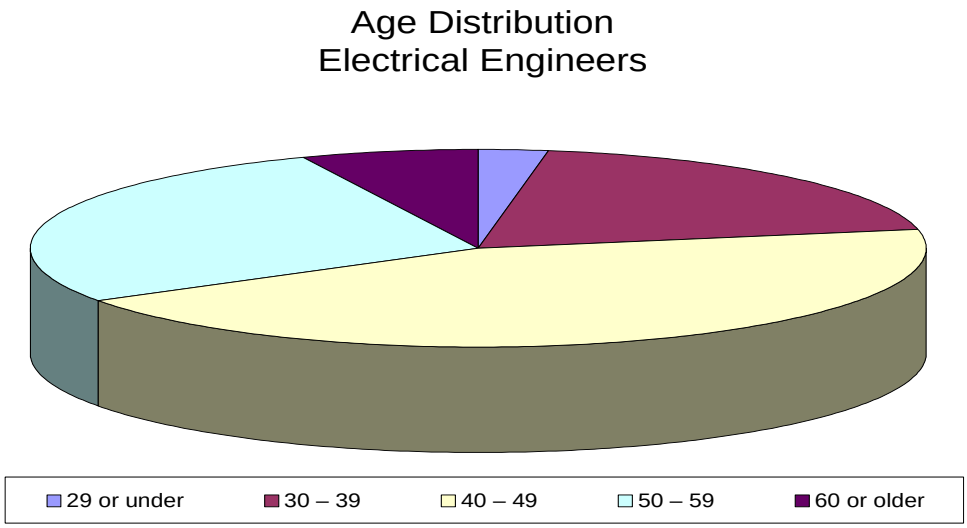
Appendix 4

10. Employee Age Distribution in Occupation

Age Distribution in the Electrical Engineer Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
3	25	56	35	8	**127**

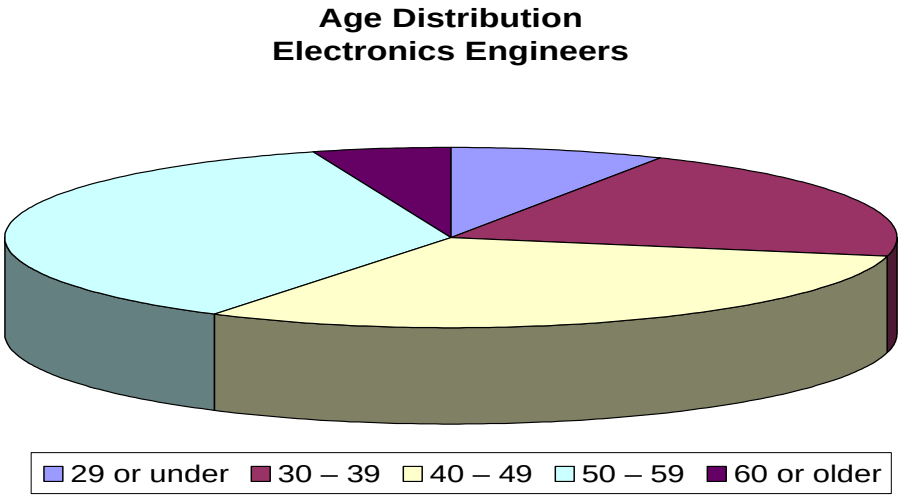
99 of 127 (78 percent) are age 40 and older.



Age Distribution in the Electronics Engineer Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
3	8	12	14	2	**39**

28 of 39 (72 percent) are age 40 and older.



Appendix 4

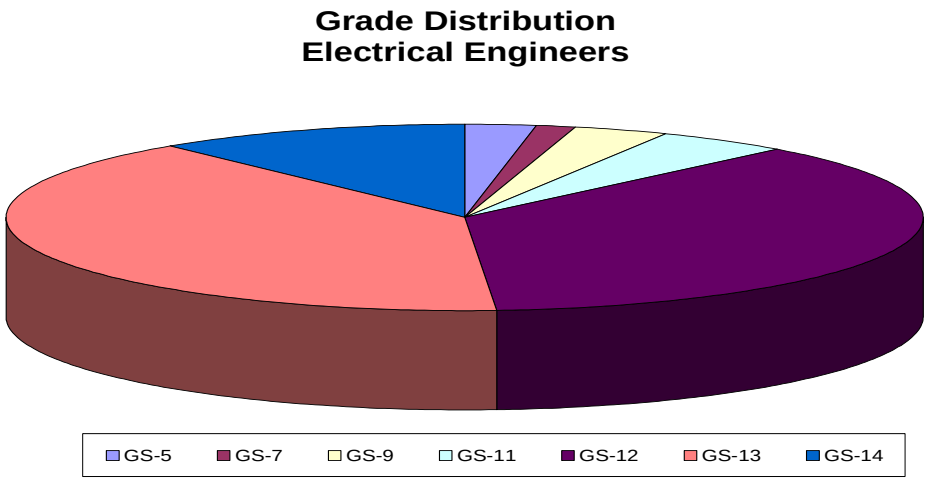
11. Employee Grade Distribution

GS/GM Grade Distribution in the Electrical Engineer Occupation

GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	Totals
3	2	4	6	47	51	14	0	**127**

Note: Supervisors and non-supervisors are combined excluding SES.

Ninety-eight employees (77 percent) are concentrated in grades 12/13, i.e., they are fully performing specialists. There are 15 employees (12 percent) in lower grades that can be developed into these higher level positions.



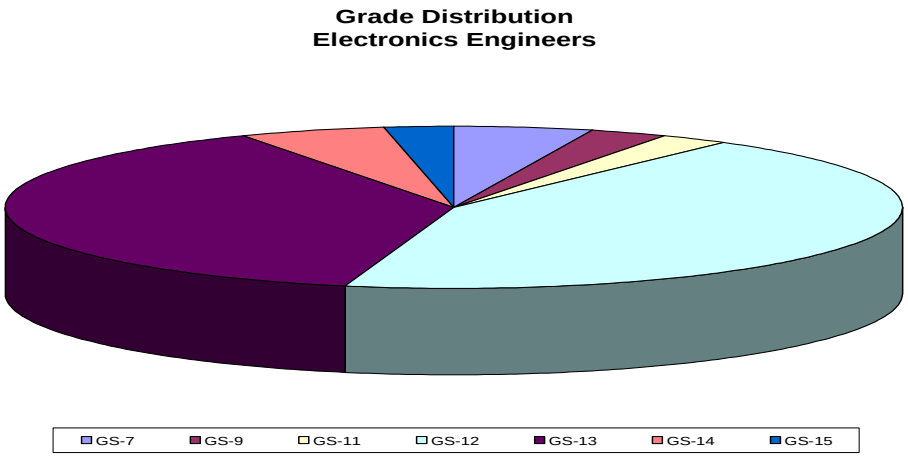
GS/GM Grade Distribution in the Electronics Engineer Occupation

GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	Totals
0	2	1	1	17	15	2	1	**39**

Note: Supervisors and non-supervisors are combined excluding SES.

Thirty-two employees (82 percent) are concentrated in grades 12/13, i.e., they are fully performing Specialists. There are only four employees (10 percent) in lower grades that can be developed into these higher-level positions.

Appendix 4



12. Supervisors/Employees Eligible for Retirement (Early and Optional) in Next Five Years

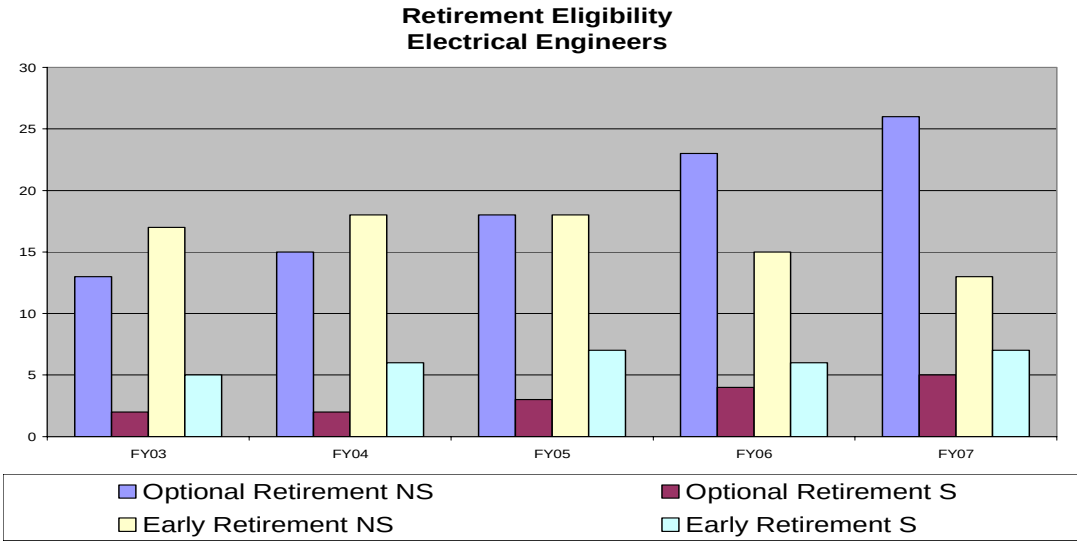
Cumulative Retirement Eligibility by Year and Type
Electrical Engineers

Years	Early Retirement		Optional Retirement		All Retirements		
	NS	S	NS	S	NS	S	Total
FY03	17	5	13	2	30	7	37
FY04	18	6	15	2	33	8	41
FY05	18	7	18	3	36	10	46
FY06	15	6	23	4	38	10	48
FY07	13	7	26	5	39	12	51

NS = Non-Supervisor; S = Supervisor

Notes: Total population of Electrical Engineers is 127. Chart is cumulative across Fiscal Years, (i.e. assumes no retirements occur). When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

Appendix 4



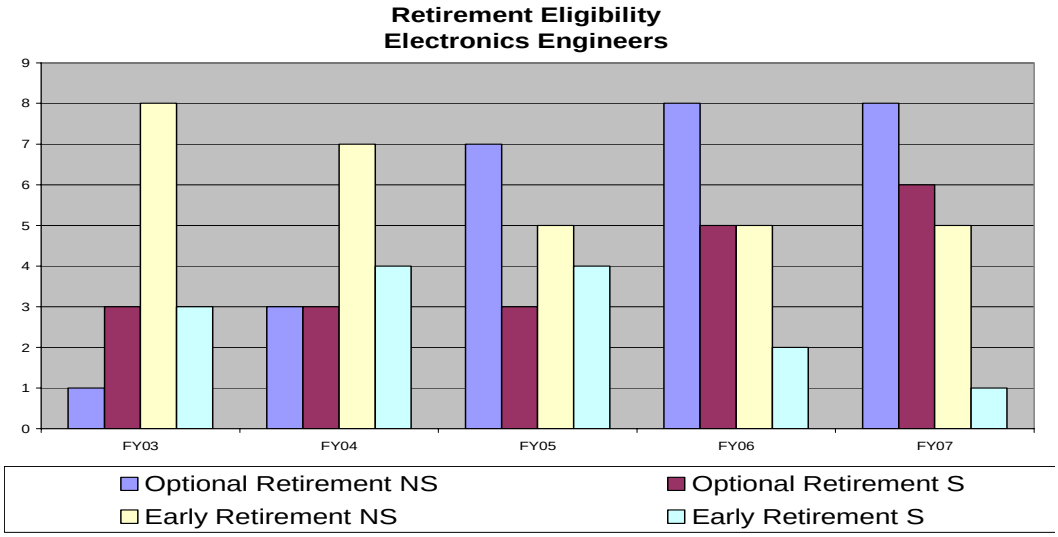
Cumulative Retirement Eligibility by Year and Type
Electronics Engineers

Years	Early Retirement		Optional Retirement		All Retirements		
	NS	S	NS	S	NS	S	Total
FY03	8	3	1	3	9	6	15
FY04	7	4	3	3	10	7	17
FY05	5	4	7	3	12	7	19
FY06	5	2	8	5	13	7	20
FY07	5	1	8	6	13	7	20

NS = Non-Supervisor; S = Supervisor

Notes: Total population of Electronics Engineers is 39. Chart is cumulative across Fiscal Years, (i.e. assumes no retirements occur). When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

Appendix 4



13. Average Age/Years at Which Employees Take OPTIONAL Retirement

Electrical Engineers

	OPTIONAL Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years PAST OPTIONAL Eligibility
FY00	6	60.4	29.8	3.1
FY01	2	62.1	32.7	4.6
FY02	--	--	--	--
FY03	1	58.2	33.3	3.2
Averages	**3**	**60.5**	**30.8**	**3.4**

-- = No retirements for that year

Electronics Engineers

	OPTIONAL Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years PAST OPTIONAL Eligibility
FY00	1	63.6	35.8	5.8
FY01	1	62.0	24.7	2.0
FY02	2	60.8	29.6	3.3
FY03	--	--	--	--
Averages	**1.3**	**61.8**	**29.9**	**3.6**

-- = No retirements for that year

Appendix 4

14. Average Age/Years at Which Employees Take EARLY Retirement

Electrical Engineers

	EARLY Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years BEFORE OPTIONAL Eligibility
FY00	2	52.1	23.6	5.5
FY01	--	--	--	--
FY02	1	50.5	21.3	8.7
FY03	1	37.7	17.1	18.5
Averages	**1.3**	**46.76**	**20.6**	**10.9**

-- = No retirements for that year

Electronics Engineers

	EARLY Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years BEFORE OPTIONAL Eligibility
FY00	1	51.8	28.1	3.3
FY01	1	58.8	25.7	1.2
FY02	--	--	--	--
FY03	--	--	--	--
Averages	**1**	**55.3**	**26.9**	**2.3**

-- = No retirements for that year

Appendix 4

OEID Data

Electrical and Electronics Engineers, GS-850/855

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 160 permanent Electrical and Electronics Engineers. As of August 9, 2003, Western employed 161 Electrical and Electronics Engineers which is 12.4 percent of the Western workforce, an increase of 0.1 percent from FY02. Minorities (36) represent 22.4 percent of the group which is a 1.4 percent decrease from FY02. Females (18) represent 11.2 percent and males (143) represent 88.8 percent of the group.

Engineers are considered part of the professional category for professional, administrative, technical, clerical, other, and blue collar (PATCOB) for reporting purposes. As of August 9, 2003, Western employed 296 permanent professional employees. This group consisted of 44 non-minority females; 188 non-minority males; three Black males; four Black females; 18 Hispanic males, 13 Hispanic females; seven Asian females, 16 Asian males, and three American Indian males. As compared to the civilian labor force, Western is under-represented by 35.6 non-minority females, 4.3 Black females, 3.8 Black males, and a 0.3 Native American female.

Western's electrical and electronics engineering workforce as of August 9, 2003, was comprised of 115 non-minority males, 10 non-minority females, five Asian females, 13 Asian males, one Black male, three Hispanic females, 12 Hispanic males, and two American Indian males.

EXTERNAL LABOR FORCE ANALYSIS

Forecast of Electric Services Industry Employment

The Department of Labor provides forecasts for industries and specific occupations over a 10-year period. The data used for this section represents a forecast from 2000 to 2010 for Electrical and Electronics Engineers in the Electric Services Industry.

Of all public utilities segments (e.g., water supply and sanitary services, gas production and distribution, electric services, and combination utility services), electric services provided about 42 percent of all public utilities jobs in 2000.

Overall, the prediction is that by 2010, there will be an employment reduction in the Electric Services Industry of approximately 9.2 percent. Within the Electric Services Industry, there will be a 12.7 percent (combined) reduction in people working in the Electrical and Electronics Engineer occupations (-13.0 percent in Electrical Engineers and -7.3 percent in Electronics Engineers).

Appendix 4

Forecast of Available Labor Supply for the Electrical and Electronics Engineering Occupations

Electrical and Electronics Engineers held about 288,000 jobs in 2000 (about 20 percent of all engineering jobs), making their occupation the largest branch of Engineering.

The number of bachelor's degrees awarded in engineering began declining in 1987 and has continued to stay at about the same level through much of the 1990s. The total number of graduates from engineering programs is not expected to increase significantly over the projection period. The number of job openings resulting from the need to replace Electrical and Electronics Engineers who transfer to other occupations or leave the labor force is expected to be in rough balance with the supply of graduates.

Employment declines will result from improved production methods and technology, energy conservation by consumers, and a more competitive regulatory environment. Electric utilities will continue to increase the productivity of their plants and workers, resulting in a slowdown in employment opportunities. The combination of these factors might indicate an oversupply of available labor for these occupations. However, continuing education will be important for Electrical and Electronics Engineers and highly trained personnel with the education and experience to take advantage of new developments in electric utilities should face good prospects for employment.

Earnings Information

According to a 2001 salary survey by the National Association of Colleges and Employers, bachelor's degree candidates in Electrical and Electronics Engineering received starting offers averaging $51,910 a year (roughly equivalent to a then GS-11/5); master's degree candidates averaged $63,812 a year (roughly equivalent to a then GS-12/7); and Ph.D. candidates averaged $79,241 a year (roughly equivalent to a then GS-13/8).

Appendix 5

Workforce Planning Report
Information Technology Specialist, GS-2210

WESTERN WORKFORCE ANALYSIS

The Office of Personnel Management identified 10 parenthetical classifications for the Information Technology (IT) Management series (GS-2210). Western uses all of them (policy and planning, security, systems analysis, applications software, operating systems, network services, data management, internet, systems administration, and customer support).

While this report focuses on the 78 GS-2210s identified within the Corporate Human Resource Information System (CHRIS), Western's IT workforce is more than that series. Its composition changed with the integration of regional SCADA and IT support staffs. Western's IT organization has 118 federal and 95 contract staff including IT specialists (GS-2210), computer scientists (GS-1550), student trainees (GS-2299 and GS-399), computer clerks (GS-335) and electronics engineers (GS-855).

Future State: Forecasts from the Subject Matter Experts

The following data was provided by the Western Chief Information Office Council (WCIOC) via the Business Forecasting & Workforce Planning Tool survey. Their complete answers have been consolidated and summarized below.

1. **Please list the strategic objectives this job occupation directly supports.**
   - Maximize operational efficiencies and reduce costs by using IT and IT applications.
   - Improve maintenance effectiveness by focusing on planning, execution, reliability centered maintenance principles and using a comprehensive maintenance database.
   - Identify physical and cyber threats, attempts, breaches and vulnerabilities and implement protective measure to reduce or eliminate those threats and vulnerabilities.
   - Ensure Western's cyber security procedures and controls are documented, communicated and employees are educated.

2. **What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)**
   Operations and maintenance:
   - Continuous computer systems operation during business hours.
   - Applications development/modification of compartmentalized, quickly produced quality products with government requirements built in for the maintenance, operations and finance communities.
   - Maintenance of e-mail, web and internet services on a 24x7 basis.
   - Protection of Western's business functions from cyber security threats.

- Maintenance of a stable, responsive and cost effective IT infrastructure to support Western's business functions.

New technology:

- Investment in new technologies and systems to accomplish the business.
- Requirements brought about by new marketing plans and electrical utility industry restructuring.

Process improvement:

- Maximize resource efficiencies by consolidating systems, automating processes, and implementing process improvements.
- Implement procedures and systems to maintain and secure Western's existing systems to ensure our business continuity.
- Utilize Western's enterprise architecture to improve its business processes.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next three to five years? Please explain.

- Increasing DOE and OMB enterprise mandates will require staff to have the knowledge and time to respond to the data calls, tracking, project management and reporting requirements of initiatives such as the President's Management Agenda, E-Gov, iManage, eXCITE, IDEA, internal scorecard, Exhibit 53/300 and federal policies and laws.
- Industry restructuring, power marketing, operations changes and regulations.
- Increased cyber security and Homeland Security requirements.
- Rebound in IT related private industry employment.
- Call Center expansion for internet services affecting security, email and network.

a. Will these changes require different numbers or grade levels of employees?
   - We are unlikely to have a large staff of regular employees.
   - Recruitment at lower grade levels to build a blend of junior and senior specialists.
   - Additional project management and contractor oversight will be required as contract services increase.

b. Will these changes require different knowledges and skills of the employees? If so, please explain.
   - Change to business agents/analyst work writing and monitoring contracts.
   - More budget formulation/tracking.
   - More project management of increasingly smaller projects.
   - Better understanding of DOE and OMB reporting requirements.
   - Specialized knowledge of the utility industry.
   - Knowledge of various platforms, applications and reporting tools mostly for contract oversight.

- Flexibility to move between projects quickly.
- Management of diverse stream of projects with an ever-changing mix of internal and external resources.
- Ability to learn new technologies as needed.
- Increased emphasis on new computer languages, internet technologies and EA.
- Technical positions will do more paperwork then technical work.
- More network and cyber security focus.
- More database administration and development.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

5.

a. What currently are our greatest strengths and weaknesses within Western for being able to get the right people in this occupation on your projects?

Strengths:

- The mission of our business
- Stability through the cyclical economy combined with flexibility to detail staff to needed project
- Committed and dedicated individuals
- Most of Western's supervisors have a good understanding of our mission and business practices

Weaknesses:

- An increasing percentage of workload is shaped by federal laws, policies, unfunded mandates, FTE ceilings and budget cuts.
- Employee burn-out
- Getting agreement on Western-wide priorities in a decentralized environment
- The continued use of a recruitment process that allows applicants to overrate themselves resulting in delayed hiring, unnecessary interviews and qualified candidates getting bumped
- The large effort 10 years ago, to value employees, has been lost due to significant changes within Western. Managers need to learn how to keep staff enthused and productive.

b. What currently are our greatest opportunities and threats from outside Western for being able to get the right people in this occupation on your projects?

Opportunities:

- Weak economy, easier to recruit/retain talented people
- Return the focus to employee value, not only vision and mission

Appendix 5

Threats:

- Strong economy, difficult to recruit/retain talented people
- Salaries rise faster in the private sector
- With federal agencies focusing on the number of retirements within the next five years, Western staff may leave if promotional and career opportunities are available at other federal organizations.

6. How many employees will your organization need to hire in this series?

Forecasted Federal Staffing of 2210s for 2006-2008

Level	GS-11 or below		GS 12/13		GS 14 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low	3 (DSW) 1 (RMR) 2 (SNR) 1 (UGP)		4 (DSW) 1 (RMR) 2 (SNR) 8 (UGP)			1 (DSW)	7 (DSW) 2 (RMR) 4 (SNR) 9 (UGP)	1 (DSW)	**0 (CSO)** **8 (DSW)** **2 (RMR)** **4 (SNR)** **9 (UGP)**
High	1 (CSO) 1 (DSW) 2 (RMR) 3 (SNR) 2 (UGP)		6 (DSW) 2 (RMR) 3 (SNR) 10 (UGP)			3 (DSW) 1 (SNR)	1 (CSO) 7 (DSW) 4 (RMR) 6 (SNR) 12 (UGP)	3 (DSW) 1 (SNR)	**1 (CSO)** **10 (DSW)** **4 (RMR)** **7 (SNR)** **12 (UGP)**

NS = non-supervisory; S = supervisory
Numbers represent new/additional positions and vacancies through attrition/retirement
Does not represent the need for, or use of, contract staff

7. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

- Recruit from outside to get required skills
- Promote from within
- Student career followed by the rotation plan
- Look at the current pool of IT contract staffs

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

- Telecommuting
- Student temporary and career programs should be used for the entry grades (up to GS-11)
- Rotation program to provide broader knowledge of Western to new staff and career advancement potential to current staff; include private industry experience

b. If you identified any alternative methods, what has been your experience in the past using these methods?

- The above mentioned methods have been successfully used.
- Stress that the above mentioned methods are not an entitlement, but can be used at management's discretion.
- Include time with private industry during the rotation program to provide an appreciation for the benefits of federal employment.
- Ensure the applicant pool is large to allow selecting official to compare candidates

8. Is there any additional information pertinent to your forecast of staffing needs three to five years out?

- Advertise for supervisory understudy; provide training and transference of duties
- Acknowledge that staffing increases depend upon budget
- Ask what has to be accomplished and how; short-term or long-term.
- Long-term planning is difficult with philosophy shifting. We no longer staff for base workloads and hire contractors for peaks. The philosophy seems to be to downsize the federal work force and contract out as much as possible.

9. Do you have any suggestions for improving the workforce planning process?

- Do more outreach with local universities and colleges to line up new hires
- When individuals plan to retire, the organization should evaluate the necessity to hire an understudy allowing a transfer of knowledge and experience.

Appendix 5

Employee Data

The following CHRIS data includes on GS-2210s and GS-334s, Computer Specialists (the former job series).

1. Actual Separations / Attrition Rate (retirements and others)

Year	Retirements		Other		Total (all years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	0	0%	3	5.36%	3	5.36%
FY01	2	3.39%	3	5.08%	5	8.47%
FY02	0	0%	1	1.43%	1	1.43%
Total	2	1.13%	7	3.9%	9	5.08%

Retirements = early out, regular retirement and disability retirements; other =separations

2. Employee Age Distribution

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
1	20	29	24	4	78

3. Employee Grade Distribution

GS-5	GS-7	GS-9	GS-11	GS-12	GS-13	GS-14	GS-15	Totals
0	0	2	5	24	35	9	3	78

4. Cumulative Retirement Eligibility

Years	Early Retirement		Optional Retirement		All Retirements		
	NS	S	NS	S	NS	S	Total
FY03	11	3	5	0	16	3	19
FY04	9	3	8	0	17	3	20
FY05	12	4	9	1	21	5	26
FY06	13	5	11	1	24	6	30
FY07	11	3	15	3	26	6	32

NS = non-supervisor; S = supervisor
Early Retirement = with mgt approval, employee can retire (does not meet age/service requirements)
Optional Retirement = without mgt approval, employee can retire (meets age/service requirements)

5. Average Length of Time Employee Stays Past Retirement Eligibility

Fiscal Years	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY99	56.05	37.92	1.0
FY01	55.11	31.00	.10
FY03	61.33	20.03	.0
Averages	57.50	29.65	.36

Appendix 5

OEID Data

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 67 permanent information technology specialists. As of August 9, 2003, Western employs 73 information technology specialists which is 5.6 percent of the Western workforce, an increase of 0.5 percent from FY02. Minorities (9) represent 12.3 percent of the group which is a 0.4 percent increase from FY02. Females (25) represent 34.2 percent and males (48) represent 65.8 percent of the group.

Information technology specialists are considered part of the administrative category for professional, administrative, technical, clerical, other, and blue collar (PATCOB) reporting purposes. As of August 9, 2003, Western employs 405 permanent administrative employees. This group consisted of 144 non-minority females, 200 non-minority males, seven Black males, two Black females, 14 Hispanic males, 20 Hispanic females, four Asian females, six Asian males, three American Indian females and five American Indian males. As compared to the civilian labor force, Western is under-represented by 38.5 non-minority males, 3.7 Black females, a 0.7 Black male, 1.4 Hispanic males, a 0.9 Asian female and 2.9 Asian males.

Western's information technology specialist workforce as of August 9, 2003, is comprised of 21 non-minority females, 43 non-minority males, two Asian females, one Asian male, two Hispanic females, and four Hispanic males.

EXTERNAL LABOR FORCE ANALYSIS

External labor statistics and trends are examined using government and private industry sources.

1. Forecast from the U.S. Department of Labor

According to the U.S. Department of Labor's (DoL) November 2001 Monthly Labor Review, IT-related occupations are projected to almost double through 2010 from about two to four million workers. These workers are expected to have at least Bachelor's Degrees.

2. Forecast from the GartnerGroup

Gartner's Impact of Demographics on Human Capital Management suggests that people are working longer because they need additional savings for retirement. This leads to promotion logjams in middle and upper management resulting in younger employees leaving for advancement opportunities. This better-educated workforce also has higher expectations of ongoing training.

The report also differentiates between job-based and project- and role-based work. Job-based work is well defined and changes infrequently. Role-based work is more

flexible and is defined by the role the worker plays on a specific project rather than by their job description. Workers in role-based environments adapt more quickly to changing business needs.

Appendix 6

WORKFORCE PLANNING REPORT
PUBLIC UTILITIES SPECIALISTS

WESTERN WORKFORCE ANALYSIS

The Public Utilities Specialist classification is unique to the Federal government. In other Federal agencies, the primary focus of the PUS field is energy acquisition. In the private sector the functions performed by PUS are performed by staff with similar job classifications, such as power system scheduler, marketer, billing technician, accounting technical, customer service representative, and engineer.

Western has identified seven specializations within the PUS classification:
- Billing
- Contracts
- Scheduling
- Rates
- Energy Accounting and Settlements
- Energy Services
- Customer Service

All of these specializations have similar general requirements, but vary greatly when it comes to specific job requirements. However, in some cases portions of the technical requirements do overlap. For example some of the requirements for Scheduling and Energy Accounting and Settlements are very similar. It is also important to note, that while in some of the specializations it is relatively easy to transition from one to another, in other cases it is very difficult. For example, a Scheduler might easily transition into being an Energy Accountant or Billing Technician, but would have a difficult time becoming an Energy Services Specialist or Customer Service Representative. Due to these variations in job requirements, this report will contain some generalizations on available workforce and possible recruitment methods.

Future State: Forecasts from the Subject Matter Experts

1. **Please list the strategic objectives this job occupation directly supports.**
   This occupation directly supports the following strategic objectives from the 2003 WAPA Annual Performance Plan:
   - Keep rates within annual targets set for Western's six main rate-setting systems.
   - Repay Federal investment within required time limits.
   - Secure adequate resources, both appropriations and customer funding, to carry out Western's strategic plan.
   - Respond to customer requests for changes in services provided.
   - Ensure Western receives no adverse Section 211 rulings.
   - Encourage customers to use renewable resources and implement energy efficiency measures.

- Support four existing financing agreements and secure customer funding for prudent project specific requests.

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g., what do you most want to accomplish? Where will you focus?)

One of the top priorities for PUSs will be implementation of new marketing plans and resource pools. Another key focus is developing new rates as a result of industry changes, including rates for ancillary services. At the same time, rate stability and timely repayment of Federal investment are essential. PUSs will be collaborating with financial staff on implementation of contractual mechanisms and tracking systems for alternative financing efforts, such as customer financing and access to receipts. In addition, we will strive to continue providing high levels of customer service to power and transmission customers, especially in the areas of renewing contracts, customer friendly open access procedures, energy accounting and billing.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

There is a continuous ebb and flow in proposed industry changes. Regional Transmission Organizations and Independent System Operators may expand their footprints to include Western's service territories. FERC has proposed Standard Market Design as a method for managing generation and transmission. The impacts of these proposals are unknown, except that what is clear is that there will be more work to accomplish, not less.

Another issue that Western is facing is integration of intermittent renewable resources, such as wind power. Western has developed a Green Tag program. The final impacts of that program are uncertain.

Ongoing efforts within Western will result in change as well: alternative financing, new marketing plans, including expanded interactions with Tribal customers, tighter management of energy resources resulting in more time spent on energy accounting issues.

a. Will these changes require different numbers or grade levels of employees?

Western assumes that the current level of staffing is adequate, depending on the level of industry change and its impacts on Western. Industry changes/restructuring may affect numbers but it is too early to have a good sense of what changes may be needed. A random increase in FTE may occur as regions hire understudies to senior staff close to retirement. Grade levels for new hires will be lower at first as entry-level employees are hired and trained to advance to more senior levels. However, over the long term the complexity of jobs in the future, and

the necessity to pay comparable wages, will probably result in a higher average grade for the PUS series.

b. Will these changes require different knowledge and skills of the employees? If so, please explain.

PUSs will need to expand their basic knowledge of Western and its operations. Particularly important is a better understanding of the financial aspects of how Western's programs are funded. PUSs will also need to expand their knowledge and understanding of industry restructuring requirements. As the work environment becomes more complex, there is the possibility that a dichotomy may develop within the PUS community into "number crunchers" and "customer service representatives". Within those two groups, the ability to acquire broader knowledge to be flexible to respond to changing needs will be crucial.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects.

a. What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?

Top Strengths
Good analytical skills; diverse knowledge bases; acquiring a broader base of electric industry knowledge; ability to observe employees before hiring (student hires)

Top Weaknesses
Too many specialists (experts) whose knowledge/experience will leave when they retire; hard to find experienced candidates in either the internal or the external workforce; extensive training is required.

b. What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?

Top Opportunities
Sharing of resources across Regions; involvement in utility restructuring has exposed staff to industry-wide issues and has increased the understanding of how non-Federal utilities operate (this knowledge will help Western be a better service provider and negotiate more effectively with non-Federal utilities).

Top Threats
Industry changes occurring faster than staff can adapt; unknown workload if RTOs become the norm; workload demands of restructuring may result in lack of staff time to tend to the customer service needs of smaller customers.

Appendix 6

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.

Forecasted Staffing of GS-1130s 3-5 Years Out (2006-2008)

Level	GS-11 or below		GS 12/13		GS 14 or Above		TOTALS		
	NS	S	NS	S	NS	S	NS	S	ALL
Low	7	0	19	0	1	3	27	3	**30**
High	13	0	36	0	2	7	51	7	**58**

NS = Non-Supervisory S = Supervisory

Over the next three to five years, expect from 30 to 58 employees to be hired, of which three are expected to be supervisory.

6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

Since the Specialist level of PUS requires extensive on-the-job training over a period of years, most new hires will be at junior levels and may be either internal or external to Western. Recommend advertising Government-wide first, and then if no qualified candidates are found advertising to the public at large. Greater emphasis should be placed on recruiting new college graduates. New hires will be expected to have more accounting/finance and computer skills. A plus is also having technical knowledge of such areas as operations, scheduling, and the electric utility industry.

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

Alternative forms of staffing can be considered to the extent they help the organization to retain key staff or provide the opportunity for an employee to demonstrate the ability to become a fully performing PUS. Telecommuting, part time and job sharing options are valuable to the former; student appointments, details, or rotation programs cover the second goal.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Telecommuting and part-time employment have been successful on occasion in retaining employees who are valuable to the organization but have special needs; e.g. scheduling flexibility, and such as part time positions. The results of these efforts are very dependent on individual needs and desires. Student hires (SCEP and STEP) have been successful as well. Several student hires have been successfully converted to full-time Federal employees.

Appendix 6

7. **Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?**
   New hires need to have strong analytical ability as well as flexibility to switch to different types of work assignments.

8. **Do you have any suggestions for improving the workforce planning process?**
   The process of interviewing Subject Matter Experts, if performed on an annual basis, may provide useful Western-wide information, but will not be significantly beneficial to the Regions. A non-routine approach may stimulate thinking and planning better in the long-term.

Appendix 6

Employee Data

1. Actual Separations / Attrition Rate (retirements and others) in Occupation

Actual Separations for the PUS Occupation Over Past Four Years*

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	4	4.0%	2	2.0%	6	6.0%
FY01	5	5.0%	2	2.0%	7	7.0%
FY02	2	1.9%	1	0.9%	3	2.8%
Totals (all Years)	11	3.6% (3-yr avg)	5	1.6% 3-yr avg)	16	5.3% (3-yr avg)

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

* *The base number of people in each fiscal year was calculated by taking the average of the total number of people in that occupation on the first and last day of the fiscal year.*

** *FY03 data was from the first day of the fiscal year through August 30, 2003, i.e., the day of the data run for this report.*

The average attrition Rate from FY1999 through FY2002 is 5.3 percent (16 people over 3 years). Note that the majority (68 percent) of attrition is due to retirements.

2. Employee Age Distribution in Occupation

Age Distribution in the PUS Occupation

29 or under	**30 – 39**	**40 – 49**	**50 – 59**	**60 or older**	**Totals**
5	20	37	38	2	**102**

Average age of employees in the PUS Occupation is 45 years as compared to 48 years for all Western occupations.

3. Employee Grade Distribution in Occupation

Grade Distribution in the 1130 Occupation

GS-5	**GS-7**	**GS-9**	**GS-11**	**GS-12**	**GS-13**	**GS-14**	**GS-15**	**Totals**
0	1	9	14	43	21	14	0	**102**

Sixty-four employees are concentrated in grades 12/13, i.e., they are fully performing specialists. There are 24 people in lower grades that can be developed into these higher level positions.

Appendix 6

4. Supervisors/Employees In the PUS Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Retirement Eligibility by Year and Type

Years	Early Retirement		Optional Retirement		All Retirements		
	NS	S	NS	S	NS	S	Total
FY03	26	5	3	1	29	6	35
FY04	25	6	4	1	29	7	36
FY05	21	6	10	1	31	7	38
FY06	20	6	13	2	33	8	41
FY07	21	9	16	2	37	11	48

NS = Non-Supervisor; S = Supervisor

5. Average Length of Time Employee Stays Past Retirement Eligibility

Average Age/Years at Which PUS Employees Retire

	PUS Optional Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY00	2	62.8	36.7	6.1
FY01	1	56.5	33.9	1.4
FY02	1	60.2	26.2	0.1
FY03	3	60.5	27.2	2.1
Averages	**2**	**60.0**	**31.0**	**2.4**

	PUS Early Retirements			
Fiscal Years	Number of Retirees	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY00	2	52.3	27.8	3.2
FY01	4	54.1	23.5	4.7
FY02	1	51.5	21.0	8.5
FY03	1	57.5	20.0	2.5
Averages	**2**	**53.9**	**23.1**	**4.7**

Appendix 6

6. OEID Data

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 105 permanent public utilities specialist. As of August 9, 2003, Western employs 102 public utilities specialists, which is 7.8 percent of the Western workforce, a 0.2 percent change from FY02. Minorities (18) represented 17.7 percent of the group which was a 0.4 percent decrease from FY02. Females (62) represented 60.8 percent and males (40) represented 39.2 percent of the group.

Public Utilities Specialists are considered part of the administrative category for professional, administrative, technical, clerical, other, and blue-collar (PATCOB) reporting purposes.

As of August 9, 2003, Western employed 405 permanent administrative employees. This group consisted of 144 non-minority females, 200 non-minority males, seven Black males, two Black females, 14 Hispanic males, 20 Hispanic females, four Asian females, six Asian males, three American Indian females and five American Indian males. As compared to the civilian labor force, Western's under-representation within the administrative category is as follows: 38.5 non-minority males, 0.7 Black males, 3.7 Black females, 1.4 Hispanic males, 2.9 Asian males, and 0.9 Asian females.

Western's public utilities workforce as of August 9, 2003, consists of 50 non-minority females, 34 non-minority males, one American Indian female, two American Indian males, two Asian females, one Asian male, two black females, two black males, seven Hispanic females and one Hispanic male.

EXTERNAL LABOR FORCE ANALYSIS

In this section, the potential to recruit from the U.S. labor workforce will be examined using information supplied by Department of Labor.

1. Forecast of Electric Industry Employment in Occupation (i.e., degree of competition for labor supply)

The Department of Labor (DoL) provides forecasts for industries and specific occupations over a 10-year period. The data used for this question represents a forecast from 2000 to 2010 for occupations related to *Electric Services Industry*. The Public Utility Specialist occupation, as used at WAPA, does not appear in the DoL database as a unique listing. The category used to determine available labor was *Business and Financial Operations Occupations*, which includes most of the specialties included in Public Utilities Specialist series. Overall, the prediction is that by 2010 there will be an employment reduction of approximately 6 percent in people working in these occupations. This would indicate the potential for an adequate supply in the market place of available labor for PUSs. However, caution is needed as the Managers of this function have indicated that the successful PUS candidate is more a function of strong analytical thinking skills then specific background in the

electric utility industry. To this end note that *Management Analysts* in the *Electric Services* area are forecasted to decline by the slightly higher margin of about 7 percent. Thus there should be a small to medium supply of people both familiar with the industry and having strong analytical skills.

2. Forecast of Available Labor Supply in Occupation

Where a specific occupation can be identified, the DoL provides a more in-depth discussion of the reason for changes in that occupation, both in terms of shifting skill set and employment. Since there is no specific occupation for PUS, three related ones were chosen to search for clues as to the supply of labor for the PUS position.

Customer Service Representative Occupation

One occupation related to PUS is being a Customer Service Representative. PUSs often have direct contact with customers whether for reasons of energy scheduling, billing questions or contract issues. Their ability to accurately represent Western's interests while maintaining good customer relations is critical to the function. While the Electric Services industry is expected to show a decline in these types of jobs, in the overall economy these jobs will remain in strong demand and increase in employment. As a result competition for highly qualified Customer Service Representatives will remain moderate to high.

Budget Analyst Occupation

This occupation has many of the characteristics discussed by marketing managers. Both require strong analytical skills regardless of the person's major field of study, computer skills to use in-house software, ability to work under strict time constraints, and good communication skills to explain work products or analyses to management and customers. In addition, 40 percent of all budget analysts work for local, State or Federal government. The *Electric Services* industry is forecasted to show a decline of about 10 percent for Budget Analysts, while employment in the overall economy should remain steady. Due to the large number of qualified applicants, an available pool of candidates should be readily available. It is noted the decline in *Budget Analyst* employment is due to increasing use of computer systems which increases worker productivity. However, as with the PUS occupation, the computers allow for more real-time information and thus add increasing complexity to the job. Thus the need stated by PUS managers for staff with strong analytical skills.

Accountants and Auditors and Bookkeeping, Accounting and Auditing Clerks

These two occupations are somewhat representative of several of the specialties in the PUS series that are very number intensive. Billing, scheduling, energy accounting and settlement, and rates specialties all require intensive input, review and analysis of numerical data. The sources of the data may be customers or Western's automated financial or energy accounting systems or transmission scheduling, tagging, and reservation systems. These functions are also critical to Western to ensure that Western collects the correct amount of revenue due and that it determines cost-based rates accurately. As would be expected, there is a wide range of expertise required in

these fields, from basic data input and review, to intensive analysis and estimation based on historical data. The *Electric Services* industry is forecasted to show a decline of about 6 percent for Accountants and Auditors and almost 20 percent for Bookkeeping, Accounting and Auditing Clerks. In the workforce at large Accountants and Auditors are predicted to grow at the average workforce rate, while employment for Bookkeeping, Accounting and Auditing Clerks will remain flat. The Marketing Managers have reservations about the currency of the data, particularly as it relates to the *Electric Services* industry. This data appears to have been collected in 2001. That year was the peak of the "energy crisis" in California. The fallout from 2001 has resulted in an increased demand for data integrity and accuracy and corporate accountability. Coupled with the early stages of utility restructuring, the Marketing Managers anticipate an increase industry-wide in these occupations and occupations similar to the accounting-type specialties in the PUS series.

Appendix 7

Workforce Planning Report
Electricians, WB-2810

WESTERN WORKFORCE ANALYSIS

Future State: Forecasts from the Subject Matter Experts

1. **Please list the strategic objectives this job occupation directly supports?**

   - Products and Services
   - People (Safety/Workforce)
   - Industry/System Reliability

2. **What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)**

   Safety is the number one priority. After that priorities are to maintain a highly sophisticated, maintenance-intense substation infrastructure utilizing RCM procedures. Major focus is to keep the system reliable by maintenance, replacement (if necessary) and commissioning of new equipment.

3. **Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.**

   There will probably be a need to add one more position based on industry, ISO and Control Area requirements in SNR. The other Regions are unsure as to whether additional positions will be needed unless regulatory agencies required increased inspections and maintenance of plan facilities (due to recent widespread blackouts) require more positions. RCM and growth of the system may also impact the need for additional FTE.

   a. **Will these changes require different numbers or grade levels of employees?**

      Only SNR is definite that they will need increased FTE **.**

   b. **Will these changes require different knowledges and skills of the employees? If so, please explain.**

      Yes, but it is imperative that we continue to provide necessary training to employees. This includes training in new technology in the field, as well as increased computer training.

Appendix 7

4. **SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?**

   a. **What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?**

   Strengths include federal benefits, pay scale, good safety record, excellent mobile and heavy equipment fleet, and training.

   Weaknesses include loss of experience as our current employees leave Western and remote locations which are difficult to staff.

   b. **What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?**

   Opportunities include a stable work environment; advancement opportunities; stability of the electrician workforce; salary; downsizing of other utilities. Threats include wages in certain geographic areas.

5. **How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.**

Forecasted Staffing of Electricians, WB-2810, 3-5 Years Out (2006-2008)

Level	(DSW)		(RMR)		(SNR)		UGP		
	J	F	J	F	J	F	J	F	ALL
Low					1	1	13	4	**19**
High	7	4	5	0	3	3	16	5	**43**

J = Journeyman F = Foreman

Over the next 3-5 years, expect from 19 to 43 employees to be hired, of which 5-8 are expected to be supervisory.

6. **Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?**

   Promoting from within for foreman positions and recruiting from the outside to fill behind the foreman and other journey level employees who leave.

   a. **Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).**

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It is essential that we need to implement an aggressive apprenticeship training program. To sustain an aggressive apprentice program, Western may need to exceed its FTE ceiling. This way there would be a core group of trained apprentices available on a somewhat continual basis. We can also use the Craftsman in Training program to transition employees from other crafts to Electricians, or to bring in new employees at lower than journeyman levels.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Private industry uses the above method successfully. The use of apprentices has been favorable in all of the regions. However, training from outside sources to fit our needs is sometimes difficult.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

Staffing needs may be affected if and when there are any early outs or buyouts.

8. Do you have any suggestions for improving the workforce planning process?

No comments here**.**

Employee Data

Note: To ensure consistency of data, information is all relative to Pay Period 16 for any given Fiscal Year.

1. Actual Separations / Attrition Rate (retirements and others) in Occupation

Actual Separations for the Electrician Occupation Over Past Three Years*

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	3	2.88%	0	0.00%	3	2.88%
FY01	3	2.80%	0	0.00%	3	2.80%
FY02	3	2.80%	1	0.93%	4	3.74%
Totals (all Years)	9	2.8 (3 yr avg)	1	0.3%	10	3.1 (3-yr avg)

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

2. Employee Age Distribution in Occupation

Age Distribution in the Electrician Occupation

29 or under	**30 – 39**	**40 – 49**	**50 – 59**	**60 or older**	**Totals**
1	10	41	45	13	**110**

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3. Supervisors/Employees In the Electrician Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Retirement Eligibility By Year and Type

Years	Early Retirement	Optional Retirement	All Retirements
	J/F	J/F	Total
FY03	29	11	40
FY04	24	22	46
FY05	23	29	52
FY06	23	35	58
FY07	23	39	62

Note: (1) The last day of Pay Period 16 in each Fiscal Year will be used as the relative date to determine eligibility for Early or Optional Retirement. (2) Chart is cumulative across Fiscal Years, i.e., assumes no retirements occur. (3) When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

4. Average Length of Time Electricians take Optional Retirement

Average Age/Years at Which Electricians Retire

	Electrician Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY99	2	62.1	23.4	1.4
FY00	2	62.5	27.1	4.0
FY02	1	65.1	22.9	3.1
FY03	3	61.6	30.1	3.5
Averages		**62.8**	**25.87**	**3.0**

Appendix 7

5. Average Length of Time Electricians take Early Retirement

Average Age/Years at Which Electricians Retire Early

	Electrician Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years before Elig
FY99	1	58.8	21.4	1.2
FY00	1	53.2	24.5	5.5
FY01	3	50.9	25.1	6.5
FY02	2	53.1	22.2	4.5
Averages		**54**	**23.3**	**4.4**

OEID Data

Electrician, WB-2810

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 361 permanent craft employees. As of August 9, 2003, Western employs 356 craft employees, which is 27.3 percent of the total workforce, a decrease of 0.3 percent from FY02. Minorities (38) represent 10.7 percent of the group which is a 0.1 percent decrease from FY02. Females (7) represent 2 percent and males (349) represent 98 percent of the group. As compared to the civilian labor force, Western is under-represented by 31.1 non-minority females, 2.5 Black females, 7.3 Black males, 15 Hispanic females, 31.5 Hispanic males, 3.9 Asian females, 7.5 Asian males, and 1.1 American Indian females.

Electricians, WB-2810 are considered part of the blue collar category for professional, administrative, technical, clerical, other, and blue collar (PATCOB) reporting purposes. As of August 9, 2003, Western employs 110 permanent electricians. This group consisted of one non-minority female, 100 non-minority males, six Hispanic males, one Asian male, and two American Indian males.

EXTERNAL LABOR FORCE ANALYSIS

1. The Department of Labor provides forecasts for industries and specific occupations over a ten - year period. The data used for this section represents a forecast from 2000 to 2010 for *Electricians.*

2. Forecast of Available Labor Supply for the Electricians

In the electric utilities services there were 6,677 electricians in 2000. The projected number for 2010 is 6,925 which is a 3.7 percent increase. Even though there is a

projected employment increase in this occupation, continued increases in the productivity of plants and workers, electric utility mergers, and the redesign and reallocation of job duties may result in a slowdown in employment opportunities. Additionally, it is predicted that by 2010, there will be an employment reduction in the overall electric services industry of approximately 9.2 percent.

3. Earnings Information

In 2000, median hourly earning of electricians were $19.29. The middle 50 percent earned between $14.49 and $25.41. The lowest 10 percent earned less that $11.31, and the highest 10 percent earned more that $31.71

Appendix 7

Workforce Planning Report
Electronic Equipment Craftsman, WB-2610

WESTERN WORKFORCE ANALYSIS

Future State: Forecasts from the Subject Matter Experts

1. Please list the strategic objectives this job occupation directly supports?

The Electronic Equipment Craftsman occupation supports and improves maintenance effectiveness and industry reliability while managing costs and developing and retaining a highly skilled, motivated, customer-focused workforce in order to provide exemplary customer service.

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)

The focus will be on the technological advances with the communications industry and how to interface that with the Western Area Power Administrations business practices and to adequately maintain, monitor and modernize Western's communication system to ensure the transmission system is reliable for power system operations.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

Technology trends have caused the Electronic Equipment Craftsmen (EEC) craft to overlap with the Meter and Relay craft. This has caused, and may cause, some blending of positions between these two craft groups (i.e. C&I or Communications and Instrumentation Craftsmen). Most of the modern communication equipment is going to digital and set up and commission is via a computer (PC). The equipment requires little or no maintenance, but will require the know how to do additions, replacement and programming changes.

a. Will these changes require different numbers or grade levels of employees?

The number will not change significantly; however, the change in technology may result in one or two positions being changed into the C&I craft. Current M&Rs and EECs will need to be trained to address the technological trends in the power industry.

b. Will these changes require different knowledges and skills of the employees? If so, please explain.

Much of the work requires PC knowledge now and will require PC knowledge in the future; however, new skills will be needed, especially in new equipment configuration as technology changes and as Western acquires different types of equipment. Employees will need to develop a broader expertise across the EEC and communications fields.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

a. What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?

Pay rates are extremely competitive; however, some positions are hard to fill due to perceived undesirable locations or high cost of living. One of Western's greatest weaknesses is not being able to recruit the best qualified for these positions.

b. What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?

There are not a lot of candidates who possess the qualifications Western requires. Additionally, some of our positions are hard to fill due to perceived undesirable locations or the high cost of living.

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.

Forecasted Staffing of EECs 3-5 Years Out (2006-2008)

Level	SNR		RMR		DSW		UGP		ALL	
	J	F	J	F	J	F	J	F	J	F
Low	1	2	6		3		4		**14**	**2**
High	3	2	14		3		4		**24**	**2**

J = Journeyman; F = Foreman

6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

Appendix 7

Given the projected staffing needs, recruitment should be both external and internal. Although foremen positions are at times filled from within, journeyman positions are generally filled by applicants from outside Western. Some of these positions will likely be filled with apprentices who may be selected either from internal sources or external sources. They may also be filled externally under the Student Career Experience Program (SCEP).

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

Would consider apprentices, student career, and the craftsman in training program.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Hiring apprentices works in some situations, however, apprentice positions cost FTE slots/affect productivity and make them a difficult choice if a journeyman can be hired instead. Western has also had good experience with student training programs before conversion to an apprentice position. One Region has used a contractor on larger projects.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

Not at this time.

8. Do you have any suggestions for improving the workforce planning process?

Investigate ways to open training positions with the flexibility to hire the most qualified individuals and use the subject matter experts' survey to make any changes to keep and recruit good staff.

Appendix 7

Employee Data

Note: To ensure consistency of data, information is all relative to Pay Period 16 for any given Fiscal Year.

1. Actual Separations / Attrition Rate (retirements and others) in Occupation

Actual Separations For the EEC Occupation Over Past Three Years

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	2	3.08	0	0	2	3.08
FY01	4	6.45	0	0	4	6.45
FY02	1	1.64	1	1.64	2	3.28
Totals (all Years)	7	3.7	1	.5%	8	4.3

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

2. Employee Age Distribution in EEC Occupation

Age Distribution in the EEC Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
2	7	18	23	7	**57**

3. Foreman/Journeyman employees in the EEC Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Cumulative Retirement Eligibility By Year and Type

Years	Early Retirement	Optional Retirement	All Retirements
	J/F	J/F	Total
FY03	13	7	20
FY04	11	11	22
FY05	11	13	24
FY06	11	15	26
FY07	11	18	29

J = Journeyman; F = Foreman

Note: (1) The last day of Pay Period 16 in each Fiscal Year will be used as the relative date to determine eligibility for Early or Optional Retirement. (2) Chart is culmative across Fiscal Years, i.e., assumes no retirements occur. (3) When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

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4A. Average Age/Years at Which EEC Occupation Employees Take OPTIONAL Retirement

	EEC Occupation OPTIONAL Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Past OPT Eligibility
FY00	1	56.6	30.2	0.2
FY01	2	61.5	24.7	0.4
FY02	1	59.5	30.0	0.0
FY03	4	59.7	26.2	1.5
Averages	**2**	**59.3**	**27.8**	**0.5**

Note: Pay Period 16 in each Fiscal Year will be used as the reference period to identify Optional retirements for that Fiscal Year.

5B. Average Age/Years at Which EEC Occupation Employees Take EARLY Retirement

	EEC Occupation EARLY Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Before **OPTIONAL** Eligibility
FY00	1	48.1	3.3	14
FY01	2	53.5	28	2.5
FY02	0	0	0	0
FY03	0	0	0	0
Averages	**0.5**	**51.1**	**16.6**	**7.5**

OEID Data

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 361 permanent craft employees. As of August 9, 2003, Western employs 356 craft employees which is 27.3 percent of the total workforce, a decrease of 0.3 percent from FY02. Minorities (38) represent 10.7 percent of the group which is a 0.1 percent decrease from FY02. Females (7) represent 2 percent and males (349) represent 98 percent of the group. As compared to the civilian labor force, Western is under-represented by 31.1 non-minority females, 2.5 Black females, 7.3 Black males, 15 Hispanic females, 31.5 Hispanic males, 3.9 Asian females, 7.5 Asian males, and 1.1 American Indian females.

Electronic Equipment Craftsmen, WB-2610 are considered part of the blue collar category for PATCOB reporting purposes. As of August 9, 2003, Western employs 108

permanent meter & relay and electronic equipment craftsmen. This group consists of 90 non-minority males, six non-minority females, six Hispanic males, three Black males, and three American Indian males.

EXTERNAL LABOR FORCE ANALYSIS

In this section the potential to recruit from the U.S. labor workforce will be examined using information supplied by Department of Labor.

1. Forecast of Electric Industry Employment in Electronic Equipment Craftsman Occupation (i.e., degree of competition for labor supply)

The Department of Labor provides forecasts for industries and specific occupations over a ten year period. The data used for this section represents a forecast from 2000 to 2010 for electrical and electronic installers and repairers, powerhouse, substation, and relay occupations.

2. Forecast of Available Labor Supply for the Electronic Equipment Craftsman

The aforementioned occupational grouping within the public utilities industry held approximately 14,000 jobs in 2000. Within the electric services, 10,965 were in the electric and electronic repairers, industry and utility occupations.

Employment of electrical and electronic installers and repairers is expected to decline by 5.9 percent by 2010. Consolidation and privatization in the electric utilities industry, improved productivity, and newer, easier to repair, and more reliable equipment will be factors contributing to the employment reduction. Additionally, it is predicted that by 2010, there will be an employment reduction in the overall electric services industry of approximately 9.2 percent.

3. Earnings Information

Median hourly earning for electrical and electronic installers and repairers, powerhouse, substation, and relay were $23.34 in 2000. The middle 50 percent earned between $19.07 and $26.21. The lowest 10 percent earned less than $14.79, and the highest 10 percent earned more than $29.00.

Appendix 7

Workforce Planning Report
Lineman, WB-2801

WESTERN WORKFORCE ANALYSIS

Future State: Forecasts from the Subject Matter Experts

A. Data from Subject Matter Experts.

1. Please list the strategic objectives this job occupation directly supports?

Support industry reliability.

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)

Continue to maintain an aging wood pole dominated transmission line infrastructure utilizing Reliability Centered Maintenance (RCM) procedures. Major focuses will remain on replacement of plants with a limited life; poles and cross arms. Right-of-way maintenance is a critical task. Filling vacant positions with qualified employees is a prime objective.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

Line crews will be performing routine maintenance and responding to and making emergency repairs. Mission and functions will remain unchanged, as will most processes. It is doubtful that technology enhancements will have an impact on high voltage transmission line maintenance and construction, other than the application of overhead groundwires encompassing fiber optic strands. Reliability Centered Maintenance may change maintenance intervals on power system equipment.

a. Will these changes require different numbers or grade levels of employees?

If regulatory agencies require increased inspections of plant facilities (due to the recent widespread blackout that affected approximately 50 million people in the Northeast United States and parts of Canada), FTE might need to be increased. Maintenance of Path 15 may require one additional FTE.

b. Will these changes require different knowledge and skills of the employees? If so, please explain.

There will be a need to maintain existing skills of live-line, hot-stick and barehand work; proper grounding; rigging; and equipment operation. Lineman skills will need to be upgraded to include installation and repair of new products- such as fiber optics. The increase in computer based test equipment will require additional computer skills.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

a. What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?

Strengths include good working conditions, federal benefits and retirement system, job security, keeping up with and using new technology especially in the area of live-line work, pay scale, good safety record, excellent mobile and heavy equipment fleet; and training.

Weaknesses include loss of experience as our current employees retire; remote locations which are difficult to staff; difficulty in removing problem employees.

b. What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?

There is a good pool of journeymen lineman and apprentice candidates in the industry but we need to continue to use proper hiring practices to ensure getting the best applicants for the job. Many qualified employees have become available as industry unrest has affected organizations that do identical/related work. With the craft retention rate as high as it is – the threat of losing our skilled, experienced people isn't very likely.

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.

Forecasted Staffing of WB-2801 3-5 Years Out (2006-2008)

Level	(DSW)		(RMR)		(SNR)		(UGP)		
	J	F	J	F	J	F	J	F	ALL
Low					0		4	3	**7**
High	1	2	9	3	1	2	6	4	**28**

J = Journeyman F= Foreman

Appendix 7

Over the next 3-5 years, expect from 7 to 28 employees to be hired, of which 11 are expected to be foremen.

6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

There is a strong feeling that Foreman positions be filled from within. One of Western's strong points is that it allows opportunities for qualified craft employees to advance to foreman positions and for craft employees with respectable reputations to bid jobs and be accepted in other duty locations**.** Outside recruiting should be used to backfill behind foreman selections and other journey level employees who leave.

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

It is essential that we need to implement an aggressive apprenticeship training program. To sustain an aggressive apprentice program, Western may need to exceed its FTE ceiling. This way there would be a core group of trained apprentices available on a somewhat continual basis. We can also use the Craftsman in Training program to transition employees into other crafts, or to bring in new employees in at lower than journeyman levels. Promoting from within has worked very well on line crews.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Large companies with hundreds of linemen have used the above forecasting method very successfully. Regions have had success using the apprenticeship program and the craftsman-in-training program.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

No comments here.

8. Do you have any suggestions for improving the workforce planning process?

Continue review of staffing and succession planning.

Appendix 7

Employee Data

Note: To ensure consistency of data, information is all relative to Pay Period 16 for any given Fiscal Year.

1. Actual Separations / Attrition Rate (retirements and others) in Occupation

Actual Separations For the Lineman Occupation Over Past Three Years

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	6	4.55%	2	1.52%	8	6.06%
FY01	4	3.05%	1	0.76%	5	3.82%
FY02	3	2.33%	3	2.33%	6	4.65%
Totals (all Years)	13	3.3 % (3 yr avg)	6	1.5 % (3-yr avg)	19	4.8 % (3-yr avg)

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

2. Employee Age Distribution in Occupation

Age Distribution in the Lineman Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
8	36	53	30	5	**132**

3. Supervisors/Employees In the Lineman Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Retirement Eligibility By Year and Type

Years	Early Retirement	Optional Retirement	Total
	J/F	J/F	
FY03	24	08	32
FY04	26	13	39
FY05	24	18	42
FY06	23	23	46
FY07	23	27	50

J= Journeyman; F= Foreman

Note: (1) The last day of Pay Period 16 in each Fiscal Year will be used as the relative date to determine eligibility for Early or Optional Retirement. (2) Chart is cumulative across Fiscal Years, i.e., assumes no retirements occur. (3) When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

Appendix 7

4. Average Length of Time Linemen take Optional Retirement

Average Age/Years at Which Linemen Retire

	Lineman Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY01	2	58.1	32.9	0.6
FY02	2	59.2	26.7	1.2
FY03	2	59	33.4	3.2
Averages		**58.7**	**31**	**1.7**

5. Average Length of Time Linemen take Early Retirement

Average Age/Years at Which Linemen Retire Early

	Lineman Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Past Eligibility
FY00	6	55.7	24.3	3.8
FY01	2	50.4	23.1	7.1
FY02	1	59.1	25.9	0.9
FY03	2	52.3	21.9	5.3
Averages		**54.4**	**23.8**	**4.3**

OEID Data

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 361 permanent craft employees. As of August 9, 2003, Western employs 356 craft employees which is 27.3 percent of the total workforce, a decrease of 0.3 percent from FY02. Minorities (38) represent 10.7 percent of the group which is a 0.1 percent decrease from FY02. Females (7) represent 2 percent and males (349) represent 98 percent of the group. As compared to the civilian labor force, Western is under-represented by 31.1 non-minority females, 2.5 Black females, 7.3 Black males, 15 Hispanic females, 31.5 Hispanic males, 3.9 Asian females, 7.5 Asian males, and 1.1 American Indian females.

Linemen, WB-2801 are considered part of the blue collar category for PATCOB reporting purposes. As of August 9, 2003, Western employs 130 permanent linemen. This group consists of 114 non-minority males, six Hispanic males, and 10 American Indian males.

Appendix 7

EXTERNAL LABOR FORCE ANALYSIS

In this section the potential to recruit from the U.S. labor workforce will be examined using information supplied by Department of Labor.

1. Forecast of Linemen

The Department of Labor provides forecasts for industries and specific occupations over a ten year period. The data used for this section represents a forecast from 2000 to 2010 for line installers and repairers.

2. Forecast of Available Labor Supply for the Lineman

Electrical power-line installers and repairers held about 46,122 jobs in 2000.

Employment of electrical power line installers and repairers should decline by 5.7 percent through 2010. Even though the demand for electricity has been consistently rising, industry deregulation is pushing companies to cut costs and maintenance, which tends to reduce employment. Also, many power companies are using their existing networks of towers and right-of-way to expand into the telecommunications industry. Because electrical power companies have reduced hiring and training in recent years, opportunities should be best for workers who possess experience and training.

3. Earnings Information

Median hourly earning for electric line installers and repairers were $22.01 in 2000. The middle 50 percent earned between $16.99 and $26.09. The lowest 10 percent earned less that $12.36, and the highest 10 percent earned more that $30.35.

Appendix 7

Workforce Planning Report
Meter & Relay Craftsman, WB-2610

WESTERN WORKFORCE ANALYSIS

Future State: Forecasts from the Subject Matter Experts

1. Please list the strategic objectives this job occupation directly supports?

The Meter & Relay Craftsman occupation supports and improves maintenance effectiveness and industry reliability while managing costs and developing and retaining a highly skilled, motivated, customer-focused workforce in order to provide exemplary customer service.

2. What are your most important business priorities influencing the work and work environment for this occupation? (e.g. What do you most want to accomplish? Where will you focus?)

The most important business priorities which influence the work are to ensure that the power system is adequately protected and metered by performing adequate maintenance, modernization and monitoring in the meter and relay field. The most important business priority which influences the work environment is selecting qualified people.

3. Do you anticipate any changes (e.g., industry-based, processes, mission and functions, new program initiatives, budgetary considerations, work locations, technology enhancements, etc.) which may affect your staffing needs over the next 3-5 years? Please explain.

Technology in the meter and relay realm is changing at a phenomenal rate. Due to integration trends, the meter and relay craft is crossing over into the electronic equipment craft. This has caused, and will cause some blending of positions between these two craft groups; i.e. Communications and Instrumentation Craftsmen (C&I).

a. Will these changes require different numbers or grade levels of employees?

The number should not change significantly, but may result in upgraded positions into the C&I craft.

b. Will these changes require different knowledge and skills of the employees? If so, please explain.

Appendix 7

As technology changes, employees will need to develop a broader expertise across the M&R and communications fields. The changes will require reliability centered maintenance (RCM) and may require, at a bare minimum, an AAS degree.

4. SWOT Analysis (Strengths, Weaknesses, Opportunities, Threats) for getting the right people on your projects?

a. What currently are our greatest strengths and weaknesses within WAPA for being able to get the right people in this occupation on your projects?

Pay rates are extremely competitive; however, some positions are hard to fill due to perceived undesirable locations or high cost of living. Western's greatest threat is the failure of the utility industry to maintain a well trained workforce for Western to recruit from.

b. What currently are our greatest opportunities and threats from outside WAPA for being able to get the right people in this occupation on your projects?

There are not a lot of candidates who possess the qualifications Western requires. Some of Western's positions are hard to fill due to perceived undesirable locations or high cost of living.

5. How many employees will your organization need to hire in this series? Please provide both high and low estimates of staffing needs three to five years out (2006-2008). Please break out your responses by supervisory and non-supervisory positions.

Forecasted Staffing of M&R, WB-2610's 3-5 Years Out (2006-2008, Composite)

Level	DSW		UGP		RMR		SNR		Totals
	J	F	J	F	J	F	J	F	ALL
Low	2	2			2		1	2	9
High	4	2	7		6		3	2	24

J = Journeyman F = Foreman

6. Given your projected staffing needs, how would you recommend filling jobs in this series (i.e. by recruiting from outside or promoting from within)? Are different approaches needed for different levels of experience?

Given the projected staffing needs, recruitment should be both external and internal. Although foremen positions are at times filled from within, journeyman positions are generally filled by applicants from outside Western. Some of these positions will likely be filled with apprentices which may be selected either from internal sources or external sources. They may also be filled externally under the Student Career Experience Program (SCEP).

Appendix 7

a. Would you recommend the use of alternative forms of staffing for any of the positions to be staffed (i.e., shared positions/services, telecommuting, apprentice, temporary, part time, job sharing, upward mobility, student temporary, student career).

Positions could be filled on a temporary, part time or job sharing basis. Apprentices may be preferred at times, however, SCEP appointments converted into apprentices may also be appropriate.

b. If you identified any alternative methods, what has been your experience in the past using these methods?

Hiring apprentices works in some situations, however, apprentice positions cost FTE slots/affect productivity and make them a difficult choice if a journeyman can be hired instead. Western has also had good experience with student positions prior to conversion to apprentice positions. One Region has used a contractor on larger projects.

7. Is there any additional information pertinent to your forecast of staffing needs 3-5 years out?

Not at this time.

8. Do you have any suggestions for improving the workforce planning process?

Investigate ways to open training positions with the flexibility to hire the most qualified individuals.

Employee Data

Note: To ensure consistency of data, information is all relative to Pay Period 16 for any given Fiscal Year.

1. Actual Separations / Attrition Rate (retirements and others) in Occupation

Actual Separations for the M&R Occupation over Past Three Years

Year	Retirements		Other		Total (All years)	
	Count	% Attrition	Count	% Attrition	Count	% Attrition
FY00	4	9.76	0	0	4	9.76
FY01	0	0.00	1	2.38	1	2.38
FY02	1	2.63	1	2.63	2	5.26
Totals (all Years)	5	4.13	2	1.67%	7	5.8

Note: Base number of people for calculating percentages is the number on-board in that occupation for Pay Period 16.

Other = Resignations and terminations
Retire = Early Out, Regular Retirement and Disability Retirements

Appendix 7

2. Employee Age Distribution in M&R Occupation

Age Distribution in the M&R Occupation

29 or under	30 – 39	40 – 49	50 – 59	60 or older	Totals
0	2	16	19	0	**37**

Note: Age of people on-board in that occupation for Pay Period 16 of FY03.

3. Foreman/Journeyman in the M&R Occupation Eligible for Retirement (Early and Optional) For Next Five Years in Occupation

Cumulative Retirement Eligibility by Year and Type

Years	Early Retirement	Optional Retirement	All Retirements	
	J/F	J/F	J/F	Total
FY03	13	4	17	17
FY04	13	5	18	18
FY05	10	8	18	18
FY06	12	11	23	23
FY07	11	12	23	23

J = Journeyman; F = Foreman

Note: (1) The last day of Pay Period 16 in each Fiscal Year will be used as the relative date to determine eligibility for Early or Optional Retirement. (2) Chart is cumulative across Fiscal Years, i.e., assumes no retirements occur. (3) When a person becomes eligible for Optional Retirement they no longer are counted under the Early Retirement column.

4. Average Age/Years at Which M&R Occupation Employees Take OPTIONAL Retirement

Average Age/Years at Which M&R Occupation Employees Retire with Optional Retirement

	M&R Occupation OPTIONAL Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Past OPT Eligibility
FY00	3	59.6	29.4	1.2
FY01	0	0	0	0
FY02	1	61.2	21.6	1.2
FY03	2	58.3	27.2	0.7
Averages		**59.7**	**26.1**	**1.0**

Appendix 7

Note: Pay Period 16 in each Fiscal Year will be used as the reference period to identify Optional retirements for that Fiscal Year.

5. Average Age/Years at Which M&R Occupation Employees Take EARLY Retirement

Average Age/Years at Which M&R Occupation Employees Retire With Early Retirement

	M&R Occupation EARLY Retirements			
Fiscal Years	Number of employees retired	Average Age at Retirement	Average Years of Service	Average Years Before **OPTIONAL** Eligibility
FY00	1	59.3	26.3	0.7
FY01	0	0	0	0
FY02	0	0	0	0
FY03	0	0	0	0
Averages	**0.25**	**59.3**	**26.3**	**0.7**

Note: Pay Period 16 in each Fiscal Year will be used as the reference period to identify Early retirements for that Fiscal Year.

OEID Data

As reported in the FY02 Annual Employment Program Accomplishment Report, Western employed 361 permanent craft employees. As of August 9, 2003, Western employs 356 craft employees which is 27.3 percent of the total workforce, a decrease of 0.3 percent from FY02. Minorities (38) represent 10.7 percent of the group which is a 0.1 percent decrease from FY02. Females (7) represent 2 percent and males (349) represent 98 percent of the group. As compared to the civilian labor force, Western is under-represented by 31.1 non-minority females, 2.5 Black females, 7.3 Black males, 15 Hispanic females, 31.5 Hispanic males, 3.9 Asian females, 7.5 Asian males, and 1.1 American Indian females.

Meter & Relay Craftsman, WB-2610 are considered part of the blue collar category for PATCOB reporting purposes. As of August 9, 2003, Western employs 108 permanent meter & relay and electronic equipment craftsmen. This group consists of 90 non-minority males, six non-minority females, six Hispanic males, three Black males, and three American Indian males.

EXTERNAL LABOR FORCE ANALYSIS

1. Forecast of Meter and Relay Craftsman

The Department of Labor provides forecasts for industries and specific occupations over a ten year period. The data used for this section represents a forecast from 2000

to 2010 for electrical and electronic installers and repairers, powerhouse, substation, and relay occupations.

2. Forecast of Available Labor Supply for the Meter & Relay Craftsman

The aforementioned occupational grouping within the public utilities industry held approximately 14,000 jobs in 2000. Within the electric services, 10,965 were in the electric and electronic repairers, industry and utility occupations.

Employment of electrical and electronic installers and repairers is expected to decline by 5.9 percent by 2010. Consolidation and privatization in the electric utilities industry, improved productivity, and newer, easier to repair, and more reliable equipment will be factors contributing to the employment reduction. Additionally, it is predicted that by 2010, there will be an employment reduction in the overall electric services industry of approximately 9.2 percent.

3. Earnings Information

Median hourly earning for electrical and electronic installers and repairers, powerhouse, substation, and relay were $23.34 in 2000. The middle 50 percent earned between $19.07 and $26.21. The lowest 10 percent earned less than $14.79, and the highest 10 percent earned more than $29.00.

Appendix 8

Excerpt from Upper Great Plains Region's Workforce Planning Project

	Regional Office	Montana Maintenance	South Dakota	North Dakota	Operations Office	# Employees	Eligible to Retire Prior to 12/07	% Anticipated Losses
General Schedule (GS)								
Accounting Technician	2					2	1	50%
Administrative Asst/Office Mgr.	1	1	3		1	6	2	33%
Budget Analyst	4					4	2	40%
Civil Engineer			4			4	1	25%
Computer Specialist					2	2	1	50%
Construction Representative			4			4	2	50%
Contract Specialist	7					7	1	14%
Electrical Engineer		4	15	5	7	31	4	13%
Electronics Engineer		2	4	3	3	12	6	50%
Engineering Tech/ Civil Engr Tech			2			2	1	50%
Environmental Protection Specialist	5					5	3	60%
General Engineer			4		1	5	3	60%
Human Resource Assistant	2					2	1	50%
Human Resource Specialist	4					4	3	75%
Information Technology (IT) Specialist	7				2	9	1	10%
O&M Specialist				1		1	1	100%
Project Manager			3			3	1	33%
Public Utilities Specialist	15				7	22	1	0.05%
Public Utilities Technician	1					1	1	100%
Realty Specialist			3			3	2	67%
Regional Manager	1					1	1	100%
Safety Specialist	5					5	2	40%
Wage Board (GS)								
Electrician		9	22	14		45	19	42%
Electronics Equipment Craftsman		4	10	5	2	21	6	34%
Lineman		14	23	18		55	11	20%
Meter & Relay Craftsman		3	8	4		15	6	40%
Administratively Determined (AD)								
Energy Management & Marketing Specialist (WT)	10					10	6	60%
Heavy Equipment Operator		1	1			2	1	50%
Power Operations Specialist					6	6	2	33%
Power System Dispatcher					26	26	6	23%
Totals						315	98	31%
Total Onboard As Of 1/02/03						344		28%